

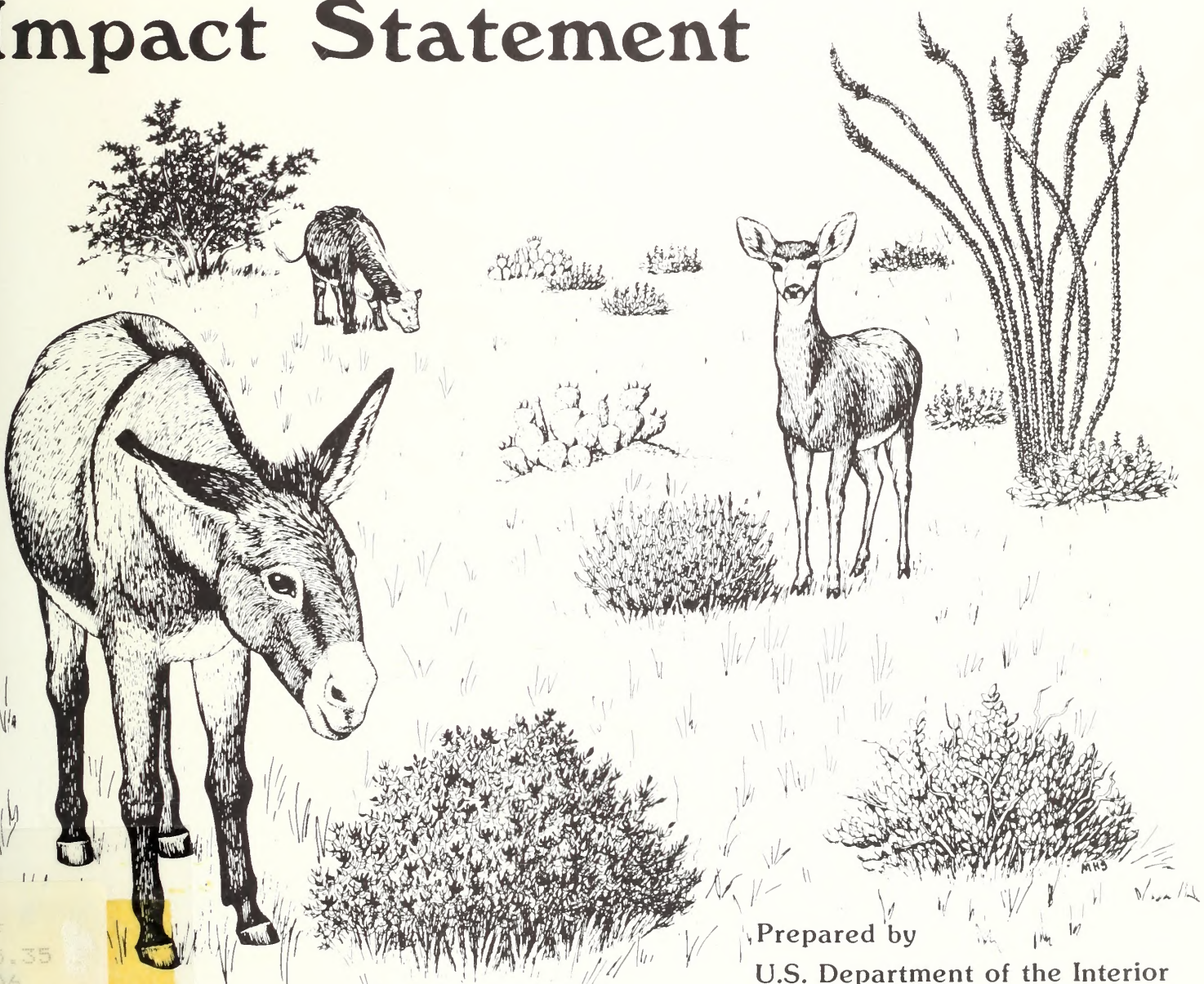
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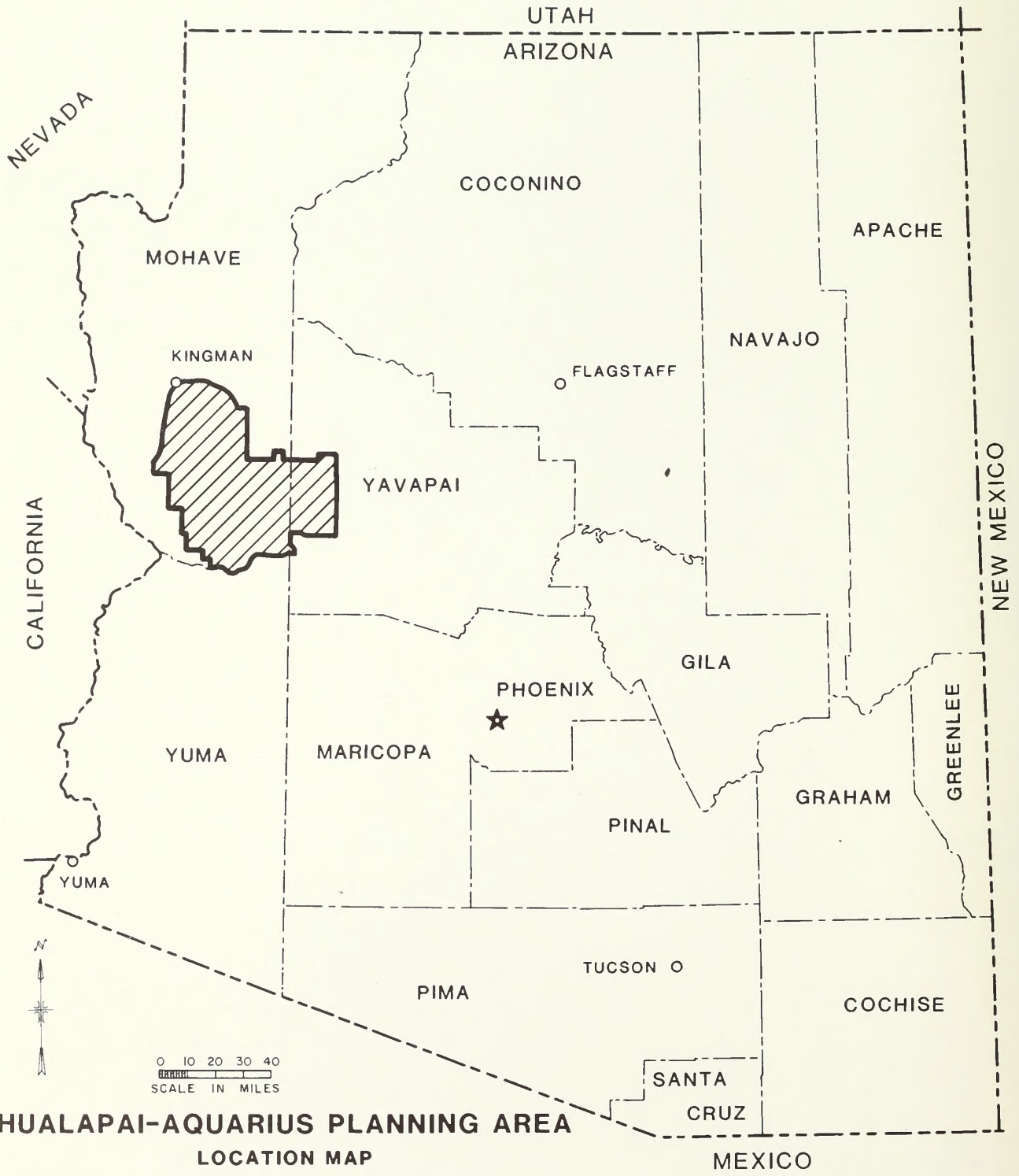
# HUALAPAI - AQUARIUS

## Final Grazing Environmental Impact Statement




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1981b

Prepared by  
U.S. Department of the Interior  
Bureau of Land Management  
Arizona



**HUALAPAI-AQUARIUS PLANNING AREA**

**LOCATION MAP**

 AREA BOUNDARY



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IN REPLY REFER TO

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

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Enclosed is the final environmental impact statement (EIS) for grazing management in the Hualapai-Aquarius Planning Area in northwest Arizona. The draft EIS was sent to you earlier. The final EIS consists of a summary of the analysis, comments received on the draft EIS, responses to those comments, and errata. No changes of substance in the analysis of the proposal or its impacts were required by the comments received on the draft statement.

This final EIS should be used with the draft for a full understanding of the analysis, comments, and responses.

This EIS will be used by BLM managers in making decisions affecting the grazing management program on public lands in the planning area. Shortly after the final document is filed with the Environmental Protection Agency (EPA), the Phoenix District Office of the Bureau of Land Management will prepare a Rangeland Program Summary that outlines its broad decisions for rangeland management in the area.

Copies of the summary will be sent to the interested public. Concurrently, the District will begin a consultation process with range users, government agencies, and other parties involved in rangeland management. This consultation will lead to the development of specific decisions for each grazing allotment.

Thank you for your interest in this EIS.

Sincerely,

Clair M. Whitlock  
State Director

United States Department of the Interior



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The enclosed is the final environmental impact statement for the proposed project. It contains the findings of the Bureau of Land Management and the results of the public hearing. The draft EIS was sent to you earlier. The final EIS contains the comments of the public, the results of the public hearing, and the changes made to the draft EIS. The final EIS is the result of the public hearing and the comments of the public. The final EIS is the result of the public hearing and the comments of the public.

This final EIS should be used with the draft for a full understanding of the project. Comments and suggestions should be sent to the Bureau of Land Management.

This EIS will be used by the Bureau of Land Management to make decisions on the project. It will be used to make decisions on the project. It will be used to make decisions on the project. It will be used to make decisions on the project. It will be used to make decisions on the project.

Copies of the summary will be sent to the public. Copies of the summary will be sent to the public. Copies of the summary will be sent to the public. Copies of the summary will be sent to the public. Copies of the summary will be sent to the public.



AREA OF THE PROJECT  
BUREAU OF LAND MANAGEMENT  
PUBLIC HEARING



**FINAL**  
**ENVIRONMENTAL IMPACT STATEMENT**

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**PROPOSED GRAZING MANAGEMENT PROGRAM**

for the

**HUALAPAI-AQUARIUS EIS AREA**

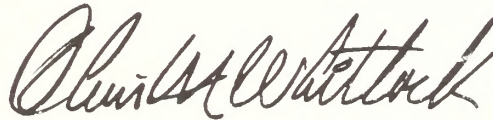
MOHAVE and YAVAPAI COUNTIES, ARIZONA

Prepared by

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

PHOENIX DISTRICT



State Director

Arizona State Office

The Bureau of Land Management proposes to implement a grazing management program within portions of the Hualapai-Aquarius Planning Area. The program would allocate vegetation to livestock, big game, and wild burros. The proposal recommends levels of livestock grazing management, identifies needed rangeland developments, and outlines a schedule of implementation. Measures to protect or enhance environmental resources have been incorporated into the program. Alternatives considered in addition to the proposed action include Continuation of Present Grazing Management (No Action), Moderate Grazing Management, Wildlife Enhancement, and Elimination of Livestock Grazing. A concise description of the affected environment and an analysis of the environmental consequences resulting from the proposed action and each alternative are provided. Oral and written comments on the draft EIS received during the 60-day review period are also included in the document.

For Further Information Contact: Jim Crisp, EIS Team Leader, Phoenix District, Bureau of Land Management, 2929 W. Clarendon Ave, Phoenix, Arizona 85017 or call (602) 241-2852

Date statement was made available to EPA and the public:

Draft - March 9, 1981

Final - AUG 1981

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# LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE STATEMENT WERE SENT

BLM sent copies of the draft EIS and requested comments from all affected grazing permittees, interested individuals, and the following agencies and interest groups:

## Federal Agencies

Advisory Council on Historic Preservation  
Environmental Protection Agency  
Department of Agriculture  
    Agricultural Stabilization and Conservation Service  
    Economics Statistics Service  
    Forest Service  
    Science and Education Administration  
    Soil Conservation Service  
Department of Defense  
    Corps of Engineers  
Department of the Interior  
    Bureau of Indian Affairs  
    Fish and Wildlife Service  
    Geological Survey  
    Heritage Conservation and Recreation Service  
    Water and Power Resources Service (Bureau of Reclamation)

## Arizona State Agencies

Arizona Commission of Agriculture and Horticulture  
Arizona Department of Health Services  
Arizona Department of Library, Archives, and Public Records  
Arizona Department of Transportation  
Arizona Game and Fish Department  
Arizona Natural Heritage Program  
Arizona Office of Economic Planning and Development  
Arizona Outdoor Recreation Coordinating Commission  
Arizona State Clearinghouse  
Arizona State Historic Preservation Officer  
Arizona State Land Commissioner  
Arizona State Parks Board  
Arizona State University  
Arizona Water Commission  
Attorney General's Office  
Governor Bruce Babbitt  
Governor's Commission on Arizona Environment  
League of Arizona Cities and Towns  
Museum of Northern Arizona  
Northern Arizona University  
University of Arizona

## Local Agencies

Big Sandy Natural Resources Conservation District  
District IV Council of Governments  
Mohave County Board of Supervisors  
Mohave County Community College  
Mohave County Extension Service  
Mohave County Library  
Mohave County Planning and Zoning Commission  
Northern Arizona Council of Governments  
Phoenix Public Library  
Yavapai County Board of Supervisors  
Yavapai College

Yavapai County Extension Service  
Yavapai County Planning and Zoning Department

## Other Organizations

Arizona Cattle Growers Association  
Arizona Desert Bighorn Sheep Society  
Arizona Farm Bureau Federation  
Arizona Fund for Animals  
Arizona Livestock Production Credit Association  
*Arizona Republic*  
Arizona Wildlife Federation  
Arizona Woolgrowers Association  
Arizona 4-Wheel Drive Association  
Cyprus-Bagdad Copper Company  
Defenders of Wildlife  
Desert Donkey and Mule Club  
Desert Tortoise Council  
Federal Land Bank Association  
Grand Canyon Chapter, Sierra Club  
Grazing Advisory Board, Kingman Resource Area  
Hualapai Indian Tribe  
Humane Society  
International Society for the Protection of Mustangs and Burros  
Izaak Walton League of America  
Kingman Chamber of Commerce  
*Kingman Daily Miner*  
League of Women Voters  
Lilly Research Laboratories  
Mohave County Cattle Growers Association  
Mohave County Farm Bureau Federation  
Mohave Sportsman's Club  
Multiple-Use Advisory Board, Phoenix District  
National Audubon Society  
National Council of Public Land Users  
Natural Resources Defense Council, Inc.  
Public Lands Council  
Public Lands Institute  
Save the Mustangs  
Society for Range Management  
Southwestern Environmental Consultants, Inc.  
The Maricopa Audubon Society  
Trout Unlimited  
Wild Burro Protection Association  
Wilderness Society  
Wild Horse Organized Assistance  
Wildlife Management Institute  
Wildlife Society

## Elected Representatives

### Federal

Representative John J. Rhodes  
Representative Eldon Rudd  
Representative Bob Stump  
Representative Morris K. Udall  
Senator Dennis DeConcini  
Senator Barry Goldwater

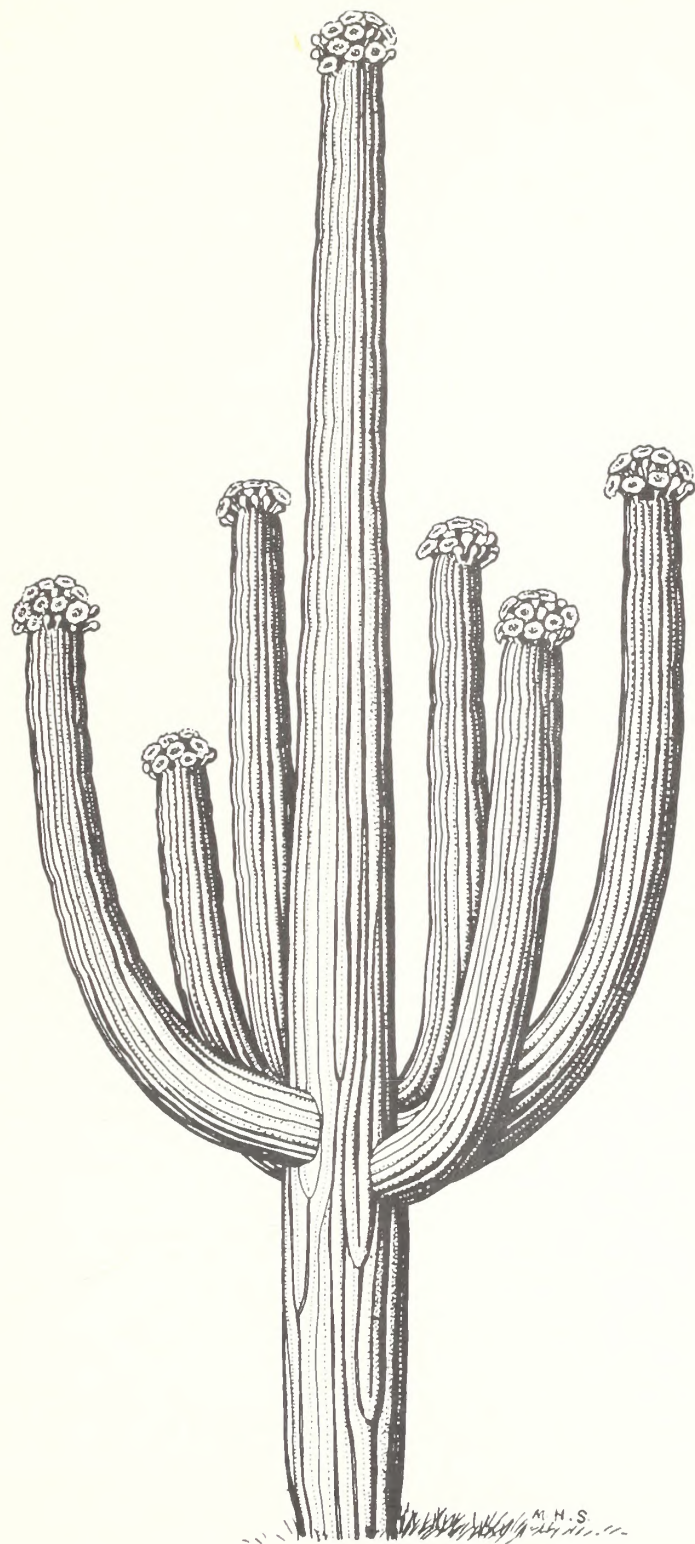
### State

Representative Jerry Everall  
Representative John U. Hays  
Senator Boyd Tenney





# SUMMARY



SAGUARO





# SUMMARY

## PURPOSE AND NEED

The Bureau of Land Management (BLM) proposes the implementation of a grazing management program for the Hualapai-Aquarius Environmental Impact Statement (EIS) area in Mohave and Yavapai Counties, Arizona. The EIS area encompasses 856,749 acres of public lands, 358,687 acres of State land, and 93,152 acres of private land.

This EIS responds to requirements of the National Environmental Policy Act of 1969 to analyze the impacts of projects having significant effects on the environment and to the Federal Land Policy and Management Act's mandate to provide for the orderly use and development of public rangelands and to preserve the land and its resources.

The overall objective of the rangeland management program is to improve the productivity of rangelands and to fulfill social, economic, and environmental needs within the EIS area.

To help "scope" and summarize significant issues concerning the proposed rangeland management program, BLM held a series of meetings and open houses between December 1979 and June 1980 to get the public involved in the review and analysis of management recommendations. Many of the issues discussed in this EIS have come out of this scoping process.

## PUBLIC REVIEW

A draft EIS was filed with the Environmental Protection Agency on March 9, 1981 and distributed to the public for review during a 60-day comment period. Hearings were conducted in Kingman and Phoenix during April to receive oral testimony from the public on the draft statement. Eighteen individuals testified at the hearings, and 32 letters of comment were received from various agencies, organizations, and individuals.

The public comments and agency review resulted in minor edits, corrections, and clarification to the text. No changes of substance were required in the draft study. An abbreviated final EIS was thus prepared following Council on Environmental Quality regulations. The final EIS also incorporates provisions of new amendments to the grazing regulations (43 CFR 4100), which strengthen consultation requirements and in-

crease phased adjustments in livestock numbers from 3 years to 5. Significant clarifications involved BLM's commitment to restoring deteriorated riparian habitats and the extent to which BLM would consult with rangeland users and other interested parties before developing and implementing specific activity plans.

## ALTERNATIVES INCLUDING THE PROPOSED ACTION

This EIS analyzes the following five alternative rangeland management programs, including the proposed action.

The *proposed grazing management program* (proposed action) was developed as part of the Hualapai-Aquarius Land Use Plan and corresponds to recommendations for rangeland management in Step 2 of the Hualapai-Aquarius Management Framework Plan (MFP). The proposed action calls for the following measures:

- Allocation of forage to livestock, wild burros, and big game so that average annual utilization of key forage species would not exceed 50 percent.
- Intensive grazing management on 28 allotments, less intensive management on 4 allotments, nonintensive management on 15 allotments, and ephemeral grazing management on 4 allotments.
- Construction of the following rangeland developments to help implement grazing systems and improve livestock distribution where no grazing system is implemented: 365 water developments, 112 miles of pipeline, 266 miles of fence, 37 cattleguards, and 8 miles of stock trail.

The proposed action's goal is to reach specific management objectives within 20 years of implementation. The stages of implementation are as follows.

- (1) Consult with grazing operators and other concerned parties.
- (2) Adjust livestock numbers to initial stocking rates (where necessary, to be phased over 5 years).
- (3) Remove excess wild burros upon approval of herd management area plan.
- (4) Begin rangeland trend and utilization studies.
- (5) Construct water developments and fences.



#### (6) Implement grazing systems.

Actual use, utilization, trend, climate, and wildlife studies would help determine how well specific objectives are being met and at what level future stocking rates should be set.

The *continuation of present grazing management* alternative (no action) proposes no change in grazing from the present. Stocking levels would remain at recognized active preferences, and forage would not be allocated to burros and big game. BLM would hold wild burro populations to existing numbers. No intensive grazing systems would be developed. Yearlong grazing would continue on 32 allotments, nonintensive grazing on 14 allotments, and ephemeral grazing on 2 allotments. BLM would construct rangeland developments needed for the orderly use of the range.

*Moderate grazing management*, a less-costly and less-intensive alternative to the proposed action, proposes no intensive grazing systems, but BLM would specify livestock numbers, kind of livestock, period of use, and rangeland development needs. Initial stocking rates would be set at 10 percent below those of the proposed action. Average utilization of key forage species would be limited to 45 percent. As under no action, existing rangeland developments would be maintained, and new developments would be built as needed for the orderly use of the range.

The *wildlife enhancement* alternative was developed to include wildlife enhancement measures recommended in the Hualapai-Aquarius Management Framework Plan (MFP) Step 1 but dropped during the MFP Step 2 multiple-use analysis. This alternative would allocate forage for the rangeland's estimated carrying capacity for big game. Average utilization of forage would be held to 40 percent, and initial stocking levels would be set 20 percent below the level of the proposed action, except on allotments lacking livestock-big game conflicts. Grazing management would be the same as under the proposed action, except ephemeral grazing would not be authorized in desert tortoise crucial habitat and riparian habitats would be fenced from livestock and burro grazing. Rangeland developments would be constructed as under the proposed action except where constrained by wildlife MFP Step 1 recommendations.

The *elimination of livestock grazing* alternative would cancel all grazing preference on public lands. BLM would allocate forage and construct and maintain rangeland developments for big game, burros, and other resources. To keep livestock off public lands, 1,500 miles of fence, 60 cattleguards, and 100 manual gates may be required. Livestock grazing would be phased out over a 5-year period. BLM would continue to monitor the rangeland for trespass and wildlife conditions.

Mitigating measures for resource protection and enhancement have been incorporated into the proposed action and alternatives.

## ENVIRONMENTAL CONSEQUENCES

### VEGETATION

Over a 20-year period, the proposed action and all alternatives except no action would increase usable forage production and plant cover and improve rangeland condition. Vegetation would overall deteriorate under no action. The most dramatic long-term improvement would occur under the proposed action and wildlife enhancement, which would increase annual usable forage production by almost 10 million air dry pounds, increase plant cover by 3 percent, and increase the area in excellent rangeland condition by 226,555 acres.

Riparian vegetation would generally improve under the proposed action, wildlife enhancement, and elimination of livestock grazing. Herbaceous riparian vegetation would improve in vigor and increased reproduction from periodic rest, reduced stocking, and new water developments under the proposed action. Allotment management plans, habitat management plans, and herd management area plans would provide for the protection of riparian areas, but until specific provisions are formulated, riparian habitat impacts cannot be rigorously projected. In a worst-case situation, woody plants would remain in poor condition under the proposed action due to concentrated use by grazing animals.

Under wildlife enhancement and elimination of livestock grazing, the fencing of riparian areas would promptly improve vigor and production of overutilized vegetation and encourage regeneration of broadleaf trees. Grasses and forbs would dominate the understory. Usable forage production in riparian areas would increase from 165 to 212 pounds per acre, and plant cover would increase from 26 to 39 percent. Riparian areas in good condition would increase from 37 to 4,431 acres, and areas in excellent condition would increase from 0 to 163 acres.

In the long term, rangeland developments and livestock concentration around new waters would permanently disturb the following acreage of vegetation and soil: proposed action—228 acres, no action and moderate grazing management—111 acres, wildlife enhancement—197 acres, elimination of livestock grazing—156 acres.



## SOILS

All alternatives except no action would generally benefit soils. Increased vegetation production resulting from livestock and wild burro reductions would increase ground cover (litter and vegetation) and reduce soil movement and raindrop impact. These actions would decrease soil compaction on clayey soils, increasing water infiltration rates and water retention in the soils. Soil movement and erosion would decline. Average sediment yield would also decline 3 percent under the proposed action, moderate grazing, and wildlife enhancement from 0.33 to 0.32 acre-feet/square mile/year. Under the elimination of livestock grazing, average sediment yield would drop 9 percent to 0.30 acre-feet/square mile/year.

The no-action alternative would generally decrease ground cover and increase soil movement and erosion. Soil compaction would increase on clayey soils, reducing water infiltration rates and water retention in the soils. Average sediment yield would increase 9 percent to 0.36 acre-feet/square mile/year.

## WATER RESOURCES

Wildlife enhancement and elimination of livestock grazing would most benefit water quality in the EIS area, reducing runoff, sediment, and nutrient pollutants. The proposed action would reduce nutrient pollution and runoff and might reduce sediment and fecal coliform. Continuing present management would increase sediment and runoff but not affect nutrient pollutants or fecal coliform. Moderate grazing management would not affect sediments and nutrient pollutants but would reduce runoff and might increase fecal coliform.

New water developments would increase surface storage capacity by 49.5 acre-feet under the proposed action, 26.6 acre-feet under no action and moderate grazing management, and 22.9 acre-feet under wildlife enhancement. Surface storage capacity would insignificantly change under elimination of livestock grazing.

## WILDLIFE

Wildlife enhancement would benefit wildlife habitat the most followed by elimination of livestock grazing, the proposed action, and moderate grazing management. Reducing livestock and burro numbers under all alternatives except no action would lessen competition among forage users and bring grazing in the EIS area in line with the estimated carrying capacity. The resulting improvement in big-game habitat would lead to

increases in big-game numbers, the greatest increase occurring under the wildlife enhancement alternative. Under no action, small-game and nongame habitat would continue to deteriorate, and populations of all big-game species except javelina would decrease.

Riparian habitat quality could continue to degrade under all alternatives except wildlife enhancement and elimination of livestock grazing. In the long term, continuation of present grazing management would lead to only 37 riparian acres being in better than poor condition. Under wildlife enhancement and elimination of livestock grazing, 98 percent of riparian habitat would improve, and no riparian habitat would remain in poor condition.

Rangeland developments would have varied impacts on wildlife. Although no more than 30 nongame bird and mammal species would benefit from new livestock waters, new waters would benefit water-dependent species, allowing them to expand into habitats previously lacking water. Increased food and cover around fenced reservoirs would also enhance habitats. Intensive livestock use around each new water, however, would reduce protective cover and forage and increase the vulnerability of prey species to predators. Fence construction would interfere with elk, mule deer, pronghorn, and bighorn sheep movement, resulting in some death by entanglement and possible changes in movement patterns.

All alternatives except no action would increase wildfire frequency by increasing fuel production. If fire is allowed to burn significant acreage in certain vegetation types, it would increase the production of forage and cover, especially forbs and browse. Wildfires would also speed up beneficial habitat changes in chaparral and grasslands, improving rangeland condition and benefiting deer, antelope, Gilbert's skinks, Gila monsters, and several raptor species.

## BURROS

The proposed action and moderate grazing management would reduce the EIS area's burro population by 84 percent (843 to 139 burros) through a live capture program. The captured burros would undergo some stress as would the remaining population, but these alternatives would benefit the remaining population by reducing competition for forage. The wildlife enhancement alternative would also reduce burro populations by 84 percent, but it would eliminate burros on 7,840 acres of riparian habitat. Removing burros from riparian habitat could severely limit the burro's ability to survive during hot dry months. Eliminating livestock grazing would maintain a herd of 483 burros, which would



no longer have to compete with livestock. Although this alternative would require less time to round up excess burros, captured burros would undergo the same level of stress as those captured under the proposed action.

The no-action alternative would adversely impact most burro-use areas by not allocating forage for burros. As grazing animals consume all grazable plants, burro populations would decline. Declining rangeland condition and lowered productivity would harm the health of burro herds.

## LIVESTOCK GRAZING

Initial reductions in stocking levels under the proposed action, moderate grazing management, and wildlife enhancement would reduce livestock grazing from authorized grazing preference by 53, 58, and 63 percent respectively. Some operators would be forced to become more dependent on non-Federal forage until forage on public land increases. Twenty years after implementation, however, increased forage would allow stocking levels to rise to within the following percentages of authorized grazing preference: proposed action—38 percent, moderate grazing—51 percent, and wildlife enhancement—50 percent. Livestock production under elimination of livestock grazing would decline by over 4,700 head of cattle.

Lower stocking rates under the proposed action, moderate grazing management, and wildlife enhancement would generally increase desirable forage species for livestock, allowing increases in weight gains, percent calf crop, and steer and heifer weaning weights, as well as decreases in the percentage of culled cows. The highest performance would occur under the proposed action and wildlife enhancement alternatives, followed by moderate management. In the long term, these alternatives should make ranching operations more stable by allowing a sustained production of beef. Under continuation of present management, livestock performance would decline.

Intensive grazing management under the proposed action and wildlife enhancement would require livestock to adapt to new terrain and water sources and to increased handling and movement. The resulting stress could cause short-term weight losses. Intensive grazing management would also increase the operator labor needed to move livestock, maintain pasture fences, and monitor herds. Lower initial stocking rates on public lands could increase grazing pressure on nearby State and private lands. The elimination of livestock grazing alternative would severely constrain the management of many livestock operations in the EIS area.

Rangeland developments under all alternatives except the elimination of livestock grazing would increase

the livestock operation's short-term construction expenses and long-term maintenance expenses.

## VISUAL RESOURCES

By changing vegetation cover, production, and composition, all alternatives could change the color and texture of the existing landscape. This change would be gradual and most evident along roads and highways. Short-term and long-term local contrasts would result from rangeland developments. Under elimination of livestock grazing, contrast would be evident along the 1,500 miles of fencing, which would have to follow legal boundaries and would involve some skylining. Contrast ratings will be completed for all rangeland developments to ensure that recommended visual resource management class objectives are met.

## CULTURAL RESOURCES

The significant direct impacts of all alternatives on cultural resources would be avoided or mitigated. Cultural resources could thus suffer adverse impacts only inadvertently or indirectly from site erosion, from vandalism due to improved access, and from new rangeland developments, which could impact previously undiscovered cultural resources. Livestock trampling and rubbing of surface structures would have insignificant potential direct impacts to cultural resources.

The alternatives would differ considerably in the level of their impacts. Eliminating livestock grazing would most benefit cultural resources, since adverse impacts on these resources would substantially decrease. Moderate grazing management would moderately decrease impacts, since rangeland construction would be limited and stocking levels would be almost half of present levels. Under wildlife enhancement, impacts to cultural resources would slightly decrease due to decreased stocking and eliminating livestock grazing from riparian areas. The numerous rangeland developments and continued high stocking under no action would result in an overall high increase in impacts to cultural resources. The proposed action, however, would have the greatest adverse impact due to the great number of proposed rangeland developments.

## RECREATION

All alternatives would measurably impact only hunting and perhaps ORV cross-country use and sight-seeing. Increases in big-game populations under all alternatives except no action would increase big-game hunting and opportunities for viewing wildlife. The



greatest annual increase in recreation use would occur under wildlife enhancement—24,327 visitor days, followed by the proposed action—21,258 visitor days, and moderate grazing management and the elimination of livestock grazing—18,112 visitor days. Continuation of present grazing management would decrease annual big-game populations and big-game hunting by 4,718 visitor days. Increases in fences under all alternatives would slightly decrease ORV cross-country opportunities.

## WILDERNESS

On lands in the EIS area proposed as wilderness study areas, all rangeland management activities will comply with BLM's *Interim Management Policy and Guidelines for Lands under Wilderness Review* (BLM, 1979). No adverse impacts on wilderness values are thus expected under any alternative.

## ECONOMIC AND SOCIAL CONDITIONS

Annual net revenues 20 years after implementation would increase for all three typical ranch sizes under the proposed action. The only other alternatives that would allow increases in net revenues would be moderate grazing management for large ranches and the wildlife enhancement alternative for small and large ranches.

If present values of expected yearly net revenues over a 30-year period are compared under each alternative, however, only the typical small ranch (67 cows) and the typical large ranch (788 cows) under the proposed action would be financially better off in the long

term than under present grazing management. The typical medium-size ranch (212 cows) would be financially hurt under all the alternatives except no action.

Eliminating livestock grazing would hurt ranchers most, forcing some out of business. Some large and medium-size operators might sell their ranches to other operators, which would help form economic units. Other operators might be forced to break their operations into small ranches and find outside employment.

Ranch values under no action would exceed values under all other alternatives except for the small-ranch values under the proposed action. Lower ranch values would reduce the rancher's ability to borrow operating capital and to repay loans.

Over the long term, ranch employment would decrease from that at present under all alternatives.

Estimated construction earnings for new rangeland developments would increase during the 5-year period in which developments would be built. The elimination of livestock grazing would increase construction earnings the most, followed by the proposed action, wildlife enhancement, moderate grazing, and no action.

Recreation earnings would increase under all alternatives except no action, supporting 11 new employees under the proposed action, 9.3 new employees under moderate grazing management and elimination of livestock grazing, and 12.5 new employees under wildlife enhancement.

Social perceptions and attitudes of Mohave County residents are not expected to measurably change as a result of a decision to implement any of the alternatives.





# COMMENTS AND RESPONSES



JUNIPER TREE





# COMMENTS AND RESPONSES

## REVIEW PROCESS

The draft EIS was filed with the Environmental Protection Agency on March 9, 1981. A 60-day comment period then began that extended through May 12, 1981. A notice of availability of the draft EIS and announcement of public hearings was published in the Federal Register on March 12, 1981. A subsequent notice was published on March 20, 1981.

Over 300 copies of the draft EIS were mailed to Federal, State, and local government agencies, organizations, and individuals for review and comment. News releases from Washington and Phoenix provided information on how to obtain copies of the draft EIS.

BLM conducted public hearings in Kingman and Phoenix, Arizona on April 22 and April 23, 1981, respectively, to receive oral testimony from the public on the draft statement. Four individuals spoke in Kingman, and 14 individuals spoke in Phoenix. In addition, 32 letters of comment were received from various agencies, organizations, and individuals.

The EIS team reviewed all comments and responded to those presenting new data, questioning the draft analysis, or raising issues directly related to the environmental impacts of the proposed action and alternatives. The team did not respond to comments not addressing the adequacy of the draft EIS. All comments pertaining to the proposed action or alternatives, however, will be considered by BLM managers in making grazing management decisions for the Hualapai-Aquarius Planning Area.

The final EIS, which includes written comments and hearing transcripts, will be sent to the Secretary of the Interior and the Environmental Protection Agency. Copies may be inspected at the following BLM offices: the State Office, Phoenix, Arizona; the Office of Public Affairs, Washington, D.C.; and the Phoenix District Office, Phoenix, Arizona.

## GENERAL RESPONSES TO COMMENTS

Some commenters requested BLM to modify the proposed action in the final EIS to accomplish various purposes. In addition, a large number of comments received were directed to one or more of three specific

topics addressed in the draft EIS. These include the adequacy of the proposed action regarding protection of sensitive riparian habitats, reductions in livestock numbers required by the proposed initial stocking rates, and BLM's use of the Soil Vegetation Inventory Method (SVIM) to generate vegetation production estimates. The following general responses are offered for clarification.

1. Some commenters mistakenly assumed that the proposed action was developed as part of the EIS process and that the EIS team may amend the proposal at its own discretion. Chapter I of the draft EIS (pages 9-11) describes how the proposed grazing management program was developed as part of the Hualapai-Aquarius Land Use Plan, which involved extensive public and interdisciplinary participation. Chapter I further notes that the purpose of the EIS is to analyze the impacts of the proposed grazing program and to compare these to the impacts of reasonable alternatives. The EIS team had little discretion other than to describe the proposal as it was defined in the land use plan and to develop alternatives that responded to current policy and the full range of issues identified through the planning process.

Thus the team cannot respond to comments questioning the suitability of details of the proposal. BLM managers, however, will fully consider such comments in making decisions on the grazing management program. Where necessary, resource management recommendations in the proposal will only be changed in Step 3 of the management framework plan. Chapter I (page 10) of the draft EIS describes how the EIS will be used in that process and how the decision may incorporate elements of more than one alternative. In this manner, BLM hopes to implement a grazing program that most completely responds to the full range of significant issues in this planning area. Decisions will be published in a range program summary and distributed for public review.

2. Several commenters criticized the proposed action for its apparent failure to protect important riparian habitats, particularly broadleaf tree areas along Burro Creek and its tributaries. Specifically, comments call for a) beefing up the proposal to guarantee improvement of riparian habitats, b) greater specificity in defining where protective measures may be taken such as fencing and establishment of seedlings, c) BLM's commitment to implement those measures for resource protection that would enhance broadleaf tree reproduction, and d) incorporation of Chapter 4 mitigating measures pertaining to management of riparian areas.



Reasons have already been given why the EIS team cannot beef up a proposed action that came out of a legitimate planning process. Out of fairness to the proposal, however, we would like to point out that the plan includes elements intended to protect riparian habitats. Item 17 on page 34 of the draft EIS under Measures for Resource Protection and Enhancement states in full: "Allotment management plans, habitat management plans, and herd management area plans will determine specific measures to protect riparian habitats and to improve and maintain instream water quality. Where necessary, the plans will call for exclusion of grazing animals through fencing, deferment, or other actions to provide for broadleaf tree reproduction and long-term enhancement."

The EIS team acknowledges that implementation of this measure and other actions called for in the proposal could reverse declining conditions in riparian habitats and improve broadleaf tree reproduction. Lack of information in the plan on specific locations, timing, numbers, and other details, however, make it impossible for the team to rigorously project improvements in the sensitive habitats. The worst case situation was thus analyzed as is required by the Council on Environmental Quality regulations (40 CFR 1502.22(b)). The draft EIS did not make this matter clear, however, and language is inserted in the final EIS to rectify the omission.

In light of the information presented above, it should be clear why the draft EIS is not more specific concerning measures to be taken to protect riparian habitat. The land use plan calls for specific measures to be developed in concert during the preparation of detailed activity plans after the EIS is completed. These plans will address specific actions, systems, or developments needed to achieve proper management of livestock, burros, and wildlife habitat and to accomplish the broad objectives in the EIS. BLM recognizes the unusual sensitivity of riparian habitats in desert ecosystems. We particularly recognize the unique and significant contribution Burro Creek and its tributaries make to wildlife habitat in this part of northwest Arizona. The land use plan extensively treats their value in providing shade, cover, water sources, prey bases, nesting sites, and habitat for numerous sensitive or protected animal species. Management recommendations commit BLM to protecting these important resources through developing and implementing site-specific activity plans that will include such actions as the following:

- Fencing of critical areas
- Rotational grazing systems that guarantee periods of rest during critical plant growth
- Broadleaf seedling plantings
- Area of Critical Environmental Concern (ACEC) designations

- Livestock and wild burro reductions
- Where other actions are found inadequate, the exclusion of grazing animals.

In addition, BLM will continue to conduct resource studies and implement monitoring programs to document the condition and trend of riparian areas and to rigorously evaluate management programs. BLM will entertain proposals to conduct cooperative studies in these areas with universities, government agencies, and other resource management organizations. Such studies could lead to refining management programs or to new actions to protect or enhance the riparian resource.

Protective measures that could be identified at the EIS stage were defined in as much detail as possible and included in the section entitled Measures for Resource Protection and Enhancement, pages 33–35 of the draft EIS. We wish to emphasize that these measures are made part of the proposed action, and, where applicable, each alternative. They are standard procedures to which BLM commits in making its proposal. Items 1, 2, 5, 6, 17, 19, and 21 bear directly on riparian habitats. Items 10, 11, 12, 15, and 20 also have potential for protecting riparian resources.

Measures that BLM felt had potential for resource enhancement and warranted further consideration or which might be useful during preparation of detailed activity plans were included in Chapter 4 under Mitigating Measures. These measures were intended to provide innovative options for responding to resource issues during decisionmaking or in drafting later plans. BLM did not commit to implement such measures in the EIS because in not all cases had these measures been determined to be effective, cost-beneficial, or technically feasible due to policy, economics, or other factors. Such determinations can be made only after the planning team and BLM managers obtain additional information.

3. A number of commenters challenged BLM's justification for large reductions in livestock numbers, citing condition, apparent trend, and other data presumed to suggest such reductions are excessive or unnecessary.

BLM does not intend to force unwarranted livestock reductions upon the permittees in the Hualapai-Aquarius Planning Area. Rather BLM proposes to take legitimate steps, where needed, to restore rangeland condition to a satisfactory level, increase forage production, and provide for the needs of other rangeland resources, including wildlife and wild burros. The objective does not center on reaching a given stocking rate on each allotment, since stocking rates may fluctuate from year to year. Rather, the objective seeks to achieve a moderate utilization of key forage species—between 40 and 60 percent.



The draft EIS is clear in noting that the proposed initial stocking rates are estimates, based on the best existing information. The plan calls for a phased adjustment (increased to 5 years by new amendments to the grazing regulations) of livestock numbers with opportunities to change the adjustments on the basis of new information from utilization and other rangeland studies. The draft EIS intended to show (assumption 6, page 69 and paragraph 7, page 125) that much flexibility is given to the local BLM office in determining levels of grazing use and management and that information from monitoring, studies, and consultation with range users and interest groups would bear directly on grazing management decisions. Regrettably, the draft EIS did not adequately convey this intention to the general reviewers. Therefore, the following clarifications are provided and language is inserted or changed in the final EIS as appropriate.

a) Before issuing allotment-specific decisions, BLM managers will consult with range users and other interested parties concerning initial stocking rates, inventory data, and grazing management systems. When additional information, utilization studies, data corrections, or updated inventories show stocking rates in MFP recommendations to be higher or lower than needed to achieve the desired utilization, BLM managers will adjust initial stocking rates to appropriate levels, using professional discretion as needed. Monitoring will determine whether the adjusted stocking rates produce desired utilization and provide the basis for making further adjustments.

b) As required by new amendments to the grazing regulations (January 19, 1981), stocking rates would generally be adjusted over a 5-year period. Where reductions are less than 15 percent of the authorized grazing use, however, adjustments will be taken in the first year following decisions. Where reductions over 15 percent are required, initial adjustments would be made on the effective date of the decision and the balance taken in the third and fifth years following the effective date. Before implementing each step of a phased reduction, BLM would review existing information to determine whether the amount of reduction should be modified and would make adjustments when called for. Decisions would normally become effective at the beginning of the second grazing season after the completion of the EIS. The public would be informed of BLM decisions through the distribution of a range program summary and later updates, which would document progress in achieving rangeland management objectives.

c) BLM is committed to expand its efforts to consult at length with parties affected by its grazing management decisions and to allow for significant contributions to the decisionmaking process. Consequently, paragraph 7 on page 125 of the draft EIS is removed from the section of Mitigating Measures and made part of the proposed action by placing it under Measures for Resource Protection and Enhancement.

4. Several commenters challenged BLM's use of the Soil Vegetation Inventory Method (SVIM) in estimating vegetation production for allocating forage through the forage allocation model.

SVIM was developed by the BLM range staff at the Denver Service Center over a number of years in consultation with universities, range users, task forces, State and Federal agencies, and organizations involved in rangeland management. It represents extensive research and consultation and is acclaimed by many universities as a legitimate tool in rangeland management. Although its strengths and its shortcomings have been debated at length in other forums, such debate has not settled the controversy over SVIM's application in the field. BLM feels that valuable rangeland information was gathered during the inventory and that these data should play a vital role in formulating the planning area's rangeland management program. BLM coordinated extensively with the Soil Conservation Service and the Arizona State Land Department in developing the local procedures for the inventory (see Appendix 1-1 in the draft EIS). The data were then applied consistently throughout the planning area to develop a rangeland management proposal in the land use plan.

Inventory data and information from the forage allocation model were thus used as starting points or guides for BLM managers in formulating the rangeland management program. As we noted in General Response 2, considerable flexibility has been granted to the local BLM manager in adjusting stocking levels and grazing management where additional information from sources inside and outside of BLM show such to be needed. We thus feel that the shortcomings inherent in a 1-year rangeland inventory referenced on page 69 of the draft EIS are adequately tempered by the exercise of professional judgment in consultation with affected range users and other interested parties.

## PUBLIC HEARINGS

Following are the complete transcripts of the hearings conducted in Kingman and Phoenix. Specific comments pertaining to the adequacy of the draft EIS are identified by number. BLM's responses to these comments follow the transcripts and are identified by the corresponding number.

All testimony presented at the hearings has been reviewed and will receive full consideration as decisions are made pertaining to the grazing management program. BLM appreciates the time given by individuals who spoke at the hearings and their genuine concern for good rangeland management on public lands in the Hualapai-Aquarius Planning Area.





Photo by Todd Glasenapp

Public hearings in Kingman and Phoenix were conducted by a hearings officer (far left) from the field solicitor's office, Department of the Interior. A BLM panel consisting of the Phoenix District Manager, the Kingman Resource Area Manager, and the EIS team leader were present to receive the testimony and respond to questions.



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THE UNITED STATES DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT

DRAFT ENVIRONMENTAL IMPACT STATEMENT )  
 )  
 PROPOSED GRAZING MANAGEMENT PROGRAM )  
 for the )  
 HUALAPAI-AQUARIUS EIS AREA )  
 Mohave and Yavapai Counties, )  
 Arizona. )

Multi-purpose Building  
 Mohave County Fairgrounds  
 Kingman, Arizona

Wednesday, April 22, 1981

Pursuant to Notice and Publication, the above-captioned matter came on for

PUBLIC HEARING

at 7:30 o'clock, p.m.

BEFORE: BILL SWAN, Hearing Officer  
 Attorney at Law  
 Office of the Field Solicitor  
 U. S. Department of the Interior

PANEL MEMBERS:

BILL BARKER  
 District Manager  
 Phoenix District  
 Bureau of Land Management

JIM CRISP  
 EIS Team Leader  
 Phoenix District  
 Bureau of Land Management

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PANEL MEMBERS (Continued);

ROGER TAYLOR  
 Area Manager  
 Kingman Resource Area  
 Bureau of Land Management

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I N D E X

SPEAKERS:	PAGE NO.
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Mr. Keith Quail -- an individual with a question	21
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P R O C E E D I N G S

MR. BARKER: If everyone will come forward and take seats, I think we can get started now.

All right, I would like to start with a few introductions. My name is Bill Barker. I'm the District Manager for the Phoenix District of the Bureau of Land Management.

I would like to introduce my "partners in crime" here tonight. Starting on the far left is Jim Crisp, who is the Team Leader of the team that developed the Environmental Impact Statement that we're here to discuss tonight.

The next fellow here on my left, I think most of you know, is Roger Taylor, who is the Area Manager for the Kingman Resource Area.

The gentleman on my right is Bill Swan, with the Field Solicitor's Office, who will serve as the judge of the moment, the hearing examiner or the -- what's your title?

HEARING OFFICER SWAN: Hearing Officer.

MR. BARKER: Hearing Officer. Bill is with the Solicitor's Office in Phoenix.

The purpose of the hearing is to receive public input on the adequacy of the Environmental Impact Statement covering the Proposed Livestock Grazing Program for the Hualapai-Aquarius Planning Area in Yavapai and Mohave

4

Counties, Arizona.

Availability of the Draft Statement and Notice of the Hearing were published in the Federal Register in March, 1981.

The Impact Statement is required by the National Environmental Policy Act of 1969, in response to the 1974 court settlement initiated by the Natural Resources Defense Council.

The Hualapai-Aquarius Environmental Impact Statement is the second such statement to be completed in the Phoenix District and also, the second for the Kingman Resource Area.

We have developed a proposed land-use plan which includes the Proposed Rangeland Management Program analyzed in the Impact Statement. The final decisions on the Proposed Management Framework Plan will not be made until at least thirty (30) days after the filing of the Final Environmental Impact Statement with the Environmental Protection Agency.

The proposed action of intensive grazing management and four (4) alternatives are described and analyzed in detail in the Environmental Impact Statement. The final decision may result in acceptance of the proposed action, or some combination of the proposed action and the various alternatives.

To meet the court ordered schedule, the Final Environmental Statement must be filed with the EPA by September 30, 1981. Comments on the Draft Statement are requested for a period of sixty (60) days from the date of publication, or until May 12th of this year. Comments received after that date will be considered in the decision process, even though they are received too late for inclusion in the Final Statement.

Comments should be sent to the Arizona State Director, BLM, 2400 Valley Bank Center, Phoenix, Arizona, 85073. This address is also given in the Impact Statement.

All written and oral comments will receive equal consideration and will be addressed in the Final Statement.

I will now turn it over to Bill Swan, our Hearing Officer for conduct of the hearing itself.

HEARING OFFICER SWAN: Thank you. I want to emphasize a couple of points before we get started. First of all, I want to state that -- make it clear that this is a "Draft" Environmental Impact Statement. The Final Environmental Impact Statement will include public comments, responses to public comments and questions and necessary changes and corrections.

Therefore, this hearing is not really for the purpose of answering questions. It's really for the purpose

of getting your comments, so that those comments can be addressed in writing in the Final Environmental Impact Statement. However, we do have BLM officials here, in case it's necessary to answer any questions, if that is appropriate this evening.

I also want to make it clear that I am an attorney for the Department of the Interior. I don't work for the Bureau of Land Management. I am here just to conduct this hearing. I will not be making decisions with regard to this EIS. Those decisions will be made by the officials of the Bureau of Land Management.

In regard to how we're going to conduct this hearing, each speaker will be limited to ten (10) minutes. And I will call the names of the speakers in the order that I have them on a list that they've signed up. Then after we get through that list, I will see if there are any speakers remaining in the audience who would like to make comments. But you will all be limited to ten (10) minutes apiece.

I would like to stress that any comments that you have to make must be made from the podium because we have a recording microphone there that would allow us to record any comments that you have to make and unless we get them recorded, we can't include them in the Final EIS.

I would also like to stress that you state your name clearly, so that we know who is giving the statement and also stress that you articulate as much as you can so that the recorder gets it clearly.

Are there any questions on how we're going to conduct the hearing?

(No response)

If not, I'm going to call the first speaker. Is Peggy Bryney here?

(No response)

Is Will Osborn here?

(No response)

Both of those people have signed up to speak. How about Dr. Carl Tomoff?

DR. CARL TOMOFF: Good evening. My name is Carl Tomoff. I live in Prescott, Arizona and I feel like I am wearing a few different hats tonight. I'm speaking for myself as a citizen of the United States and a State of Arizona resident. I'm speaking as a father of a family of children for whom I'm concerned about the future quality of life. I'm speaking as a teacher who deals with young people also interested in the future of our society and as a scientist interested in studying and learning about the natural systems that we have.

I'd like to begin by saying that I have not been able to read the entire Statement in all the kind of detail that I would like to, in order to be extremely precise with every fine point of the Statement. I have read portions of it and I have surveyed portions of it.

I think, in the short time that I have, I will try to address my point of view concerning one particular aspect of the lands that we're managing.

I would state support for the wildlife enhancement alternative as first choice, especially, as it would relate to the riparian systems. I think what I would feel most comfortable in discussing would be the reason why I feel riparian -- the streamside ecosystems are very critical to us.

First of all, they are very limited in the Southwest to very small portions of the state. Much of the original vegetation and the communities found with them have deteriorated through a variety of causes over the past fifty (50) years or so, so that there are comparatively few relatively undisturbed or moderately disturbed areas left. They are among the most unique ecosystems or communities in the United States. They contain some of the most abundant, diverse species of plants and animals found anywhere in the State.



I have hiked a good deal of Burro Creek from the -- from Highway 89, almost to the Baca Flow to the north. I have had students over a period of a few years, hike the entire drainage or a portion thereof. This experience has been one of tremendous satisfaction, both from the point of view of the aesthetic or the artistic experience that was achieved and from the point of view of the scientific or the educational value that was gained by not only the students that were learning about the plants and animals along that drainage, but by myself and other faculty that led these trips.

I think it was very clear to many of us that grazing had a very significant and deleterious effect on the natural regeneration of this vegetation. I think this is fairly well established. The U. S. Forest Service has implemented or plans on implementing proposals for restoration of vegetation in the Gila-Salt drainages and it's encouraging to think that the Bureau of Land Management could likewise follow suit here in the northwestern part of Arizona.

I'm aware of the potential difficulties that total exclusion of grazing may have on some individuals. This is a difficult situation to address, for sure. The question in one way is how much do we need to look at the issue from the

point of view of twenty, thirty, fifty, a hundred years from now? And how much of it from the immediate present?

I do not know all of the technicalities of the possible ways in which the riparian system could be managed for the continuation of moderate or limited amounts of grazing. I understand there are a variety of possibilities, such as fencing and seedling establishment of trees and the removal of fences after the trees have become established. And over a period of time, a natural regeneration could be developed with a moderate amount of grazing.

I have mentioned at the outset, support for the wildlife enhancement proposal, but I understand also that the proposed plan does include some consideration of the riparian corridors and the management of that ecosystem.

I expected to be limited to five (5) minutes, so I'm a little bit surprised at the ten (10).

I know a philosophical point of view is often hard to balance against an economic one. I feel the desire to say it -- it's very difficult to weigh non-dollar values, such as aesthetic values. The beauty of a natural riparian system is something which is not met by many other sights in the West.

Ironically, in a way, I just think of a possible dollar-and-sense value, not that I want to make a big deal

it, but as the state continues to grow and the population continues to rise, the kinds of pressures that urban dwellers are going to receive from living in congested areas is going to mount in this state. Therefore, the need for recreational areas that are free from the pressures of the city are going to be more and more needed.

As transportation rises -- the cost for transportation rises, it's going to be important to have natural areas throughout the state, not in just one particular region or another.

The Burro Creek, Trout Creek and Big Sandy drainages are the system that is, as I mentioned before, one of the most critical, in my opinion, that last remains in the northwestern part of the State, so that whatever management could be implemented to insure on-going integrity and quality of these systems is extremely important.

I neglected to mention that I am also a member of the Prescott Audubon Society and represent some views of some of our other membership.

Thank you.

HEARING OFFICER SWAN: I'll call again the names of -- Peggy Bryney? Has she come into the auditorium?

(No response)

Or Will Osborn?

(No response)

Okay, I will now call Robert Witzeman, representing the Maricopa Audubon Society.

DR. ROBERT WITZEMAN: Thank you, Mr. Swan. Ladies and Gentlemen, my name is Robert Witzeman -- Bob Witzeman -- I'm the Conservation Chairperson of the Maricopa Audubon Society. I'm also a practicing physician in Phoenix, Arizona and I have some children whom, I think, also look forward to enjoying certain of the values which this state offers, which are unique in providing both recreation and wildlife resources for their enjoyment in those future generations.

I would like to say that the Impact Statement did seem to short-change the riparian areas, as far as maintaining their integrity. One of the problems is that only the wildlife plan and not the proposed plan had a map showing areas that were to be fenced out. Now, it did mention that fencing would be done along the riparian areas, but it didn't spell it out and it was an anxiety that I have that attention won't be given to those areas.

The Maricopa Audubon Society had good relations with the cattle permittees on the Salt and Verde River when it came to the issue of developing trees for the bald eagles that were nesting there. There are no young trees coming up now and so there was an age gap where just the old trees are



1 dead and dying. And as there are no replacements coming up,  
2 we -- our Chapter proceeded to sue the Tonto National Forest  
3 for not meeting their obligation to the Endangered Species  
4 Act and said that something had to be done to keep the  
5 grazing situation from eliminating -- or continuing to  
6 eliminate, as it has for the last eighty (80) years on these  
7 rivers, the opportunity for seedlings and saplings to  
8 germinate and to grow up into full size.

9 They came up with a proposal which was to do a  
10 number of things. First, to undertake some stop-gap measures  
11 to immediately create some generation of young trees to take  
12 the place of the dead and dying. But secondly, to make long-  
13 range proposals which would address the riparian ecosystem  
14 as a whole and more appropriately.

15 The first measures were fencing enclosures, such as  
16 is on the wall over there. In the left-hand picture -- if  
17 someone wants to bring it a little closer, just bring it  
18 over to Mr. Swan.

19 (Jim Crisp displays the chart to the Panel and  
20 the audience.)

21 There were three (3) types of proposals that they  
22 -- these are stop-gap proposals -- of fencing -- if you  
23 could hold it up (the chart) -- puts fences on a floodplain  
24 and then it lets them grow up spontaneously. As the floods  
25

1 come down, the seeds are germinated in the alluvium.

2 In the second plan, they put a fence around it,  
3 but then they put whips into the ground, which are maybe only  
4 an inch or two in diameter and are not browse-proof, as you  
5 know. The cattle will put them between their legs and walk  
6 right up the whip and browse it down.

7 The third plan was to plant a tree large enough  
8 that it was browse-proof, that it couldn't be walked over  
9 by a cow and eaten. The disadvantage of the last one, of  
10 course, is that it is expensive to put trees in the size of  
11 my arm and also, it's not addressing the entire biome, or  
12 the entire food chain. It's like feeding animals in a zoo,  
13 whereas the first one on the left, at least, develops an  
14 understory, as well as a canopy, where you have a much larger  
15 arthropod vector for fish to eat; since the bald eagles are  
16 living on fish, if you're not having insects, you're not  
17 having fish.

18 The other plan -- incidently, I don't need to show  
19 the other pictures, but maybe you could look at them  
20 afterwards, or you might be interested observing them -- it  
21 was similar things in an actual scene, which hasn't been  
22 treated that way yet. It was an artist's conception, but  
23 it's an actual part on the Salt River.

24 Now, the other plan which the Forest Service  
25

1 proposed, which was their long-range plan and which was in  
2 this so-called Blue Book, was what will come up in your  
3 allotment management plans which you have envisioned. And  
4 that was to create river pastures where you could have rest  
5 rotation from the rivers. You would have fences built, not  
6 along the rivers; you would have fences built far up the  
7 banks, far out and away from the benches and up, so that  
8 they're -- there would be a large river pasture all the way  
9 up to the drainage to the river.

10 So the permittee -- that permittee -- and they have  
11 fairly large sections. There's nothing like a Burro Creek  
12 Allotment. They have well-back-from-the-river allotments.  
13 There would be another allotment fenced off -- I mean,  
14 another pasture fenced off away from the river pasture on  
15 each side of the river, so that you would have three (3)  
16 river pastures. Now, that's an over-simplification and in  
17 some cases, three (3) river pastures wouldn't be possible and  
18 sometimes more than three (3) river pastures -- I mean --  
19 three pastures -- one (1) river pasture and two (2) non-  
20 river pastures.

21 I don't know if that makes sense to the people in  
22 the room. I know it makes sense to Jack Wilson, because  
23 he's a rancher.

24 The permittees were not displeased with this. The  
25

1 permittees were not displeased with the fencing because the  
2 fencing and basically, even the planting, did not impact the  
3 ability of the cattle to drink at the water and to come down  
4 for shade and so forth in the existing trees that were there  
5 and it did not fence out any total block of the river bottom.

6 The permittees on this second one where they have  
7 created river pasture and there would be rest rotation from  
8 pasture to pasture, we were initially concerned because  
9 there was no source of water for the non-river pastures. So  
10 part of the plan, when it became fully developed, was that  
11 the Forest Service would create water supplements -- wells,  
12 tanks and so forth and so, therefore, there would be places  
13 for the water for cattle in the non-river pastures.

14 The one part that did not please the permittees,  
15 this was that the Blue Book was a long-range view of what  
16 the Tonto Forest thought should be done, and that included  
17 stocking cuts. The Audubon Society had no input into this  
18 and this was not our game to decide where a stocking cut  
19 should be made and where it shouldn't be made. Our concern  
20 was that the Bald Eagles, an endangered species, should have  
21 at least that ecosystem regenerate and in that sense, we were  
22 either favoring the fencing enclosures or rest rotation of  
23 the river bottom pastures.

24 The Forest Service threw in stocking cuts with it.  
25



1 That is another matter which addresses a subject that we are  
2 not qualified to speak upon and they said that it would be  
3 addressed when the allotment plans were made out for those  
4 permittees in the future.

5 About Burro Creek, now, to change the subject,  
6 except what I wanted to say is that I would like input from  
7 ranchers, either during this hearing -- there's nobody else  
8 speaking after me, I understand. I would like to hear their  
9 viewpoints on what our experiences were with the ranchers  
10 on the Salt and Verde. Oh, one other thing, some of the  
11 pastures on the Salt and Verde at low altitudes were proposed  
12 to be converted from perennial to ephemeral. That again,  
13 was not the Audubon Society's idea, but the Tonto Forest's  
14 and we don't take blame for that and it doesn't have any  
15 connection with what we're dealing with, so what I'm trying  
16 to say is, we're addressing a very small part of these  
17 ecosystems, only.

18 Now, on -- and I think this is all relevant to  
19 this EIS -- I can just sum up very quickly. I think my  
20 ten (10) minutes is up, now, is it?

21 HEARING OFFICER SWAN: Very close.

22 DR. WITZEMAN: Okay, the Burro Creek Allotment is  
23 a very inappropriate one, the way it is proportioned. It's  
24 so narrow, there is no place for the permittees' cows to go,

1 except in the river. It's a tiny little gorge and steep  
2 walls on the canyon that don't even need to be fenced. It's  
3 such an inappropriate economic unit, the way I would see it.  
4 I would think that putting seventy-three (73) cows on a ten  
5 (10) mile stretch from river to river is just a really  
6 illogical thing.

7 Now, I would be happy to go along with anything  
8 that he would like. A fifty (50%) percent cut, as proposed  
9 in the EIS, I am sure does not please him. And he probably  
10 envisions his ranch going from a hundred and forty thousand  
11 (\$140,000.00) sale price -- and I understand it was for sale  
12 a while back -- to a hundred thousand (\$100,000.00) to  
13 eighty thousand (\$80,000.00) dollars.

14 I think that the Nature Conservancy would like to  
15 buy it. And a lot of people would like to buy it. Maybe  
16 the Audubon Society. There's a hundred ways to do this and  
17 I think that it should be considered there can be some  
18 arrangement made that makes sense. And if none of these  
19 arrangements are necessary, then simply a parallel fence  
20 along each side of the river would be one suggestion.

21 Oh -- I would like to show -- submit five (5)  
22 slides. Could I take the time to show them? It would only  
23 take a few seconds.

24 HEARING OFFICER SWAN: I think that would be

1 appropriate, since you are the last listed speaker. Take a  
2 very short amount of time and then we'll proceed with the  
3 rest of the speakers.

4 DR. WITZEMAN: These five (5) were from Burro  
5 Creek and the -- if anybody can turn part of the lights off,  
6 it would probably help. It's not essential.

7 This (slide) is a cottonwood seedling coming up at  
8 Burro Creek and as you can see, this one was probably  
9 germinated in the floods of Valentine's Day, from its size.  
10 I would make that conclusion. And you can see where it had  
11 been browsed in the preceding year and then all the leaves  
12 this year were just about a month old when this picture was  
13 taken. And there, the reddish stalks -- the white stalks  
14 are the ones that were browsed off last year, the Valentine's  
15 Day flood germination.

16 This (slide) again, is probably a Valentine's Day  
17 cottonwood and you can see where it has been browsed in the  
18 center and these cottonwood trees, instead of becoming trees,  
19 become bushes and they grow off branches on each side. I'm  
20 sure every permittee is familiar with this sort of thing.

21 Here's another one (slide) of center stalks that  
22 have been browsed and then the lateral side shoots. And on  
23 Burro Creek, I would say that every single tree I saw,  
24 except maybe for less than a tenth of one (1/10%) percent

1 looked like this. They were of this age -- the Valentine's  
2 Day flood age group.

3 Now, here's three (3) side by side (slide) showing  
4 the same thing, but not as close and it shows the bush effect  
5 that the trees create.

6 This one (slide) was probably created in the March,  
7 1978 flood, I would say, and it shows the repeated browsing  
8 of at least three (3) seasons -- or two (2) seasons -- and  
9 it gets a bush-like effect, with the woody parts showing,  
10 but not the top.

11 Now, of all these five (5) slides I've showed, I've  
12 marked where they are. I'm quite certain that with seventy-  
13 three (73) cows in the river bottom, as they are now, every  
14 one of these will be eaten by this October or November  
15 because when it gets hot, even if there are only ten (10) or  
16 fifteen (15) cows in the river bottom, they act like a magnet,  
17 because there's shade down there and there's water and  
18 unfortunately, they are just not going to survive and  
19 reproduce their young.

20 Now, there was one (1) more slide in there that  
21 would show what would happen when a cottonwood was at a place  
22 where a cow couldn't get to it, and that was in a boulder --  
23 a very rocky boulder area in the middle of the stream. It  
24 was very hard to get there, even on foot. This tree had been



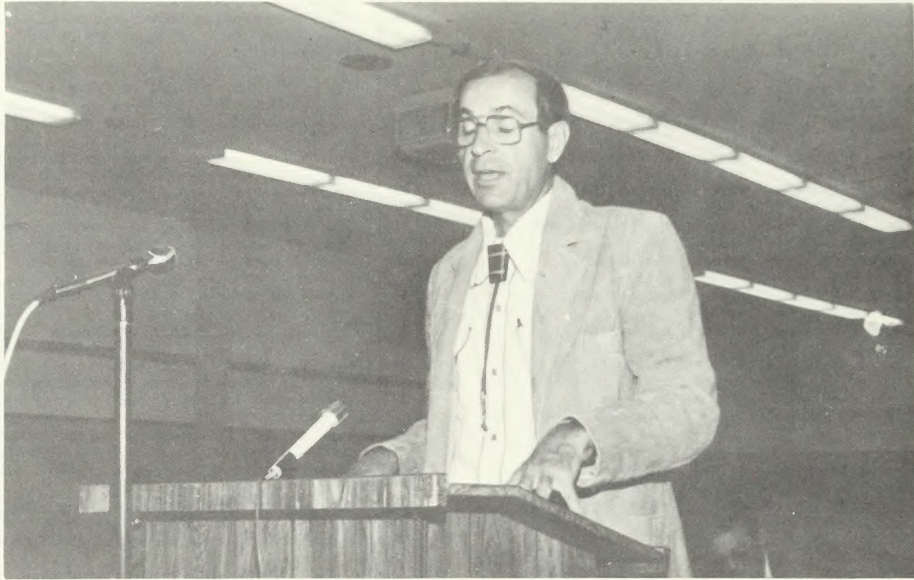


Photo by Todd Glasenapp

Dr. Robert Witzeman of the Maricopa Audubon Society presents testimony on the need to protect sensitive riparian habitats in the EIS area. During his testimony he presented five slides, reproduced below and made part of the formal record, that show broadleaf tree reproduction in various, early stages.



SLIDE NO. 1



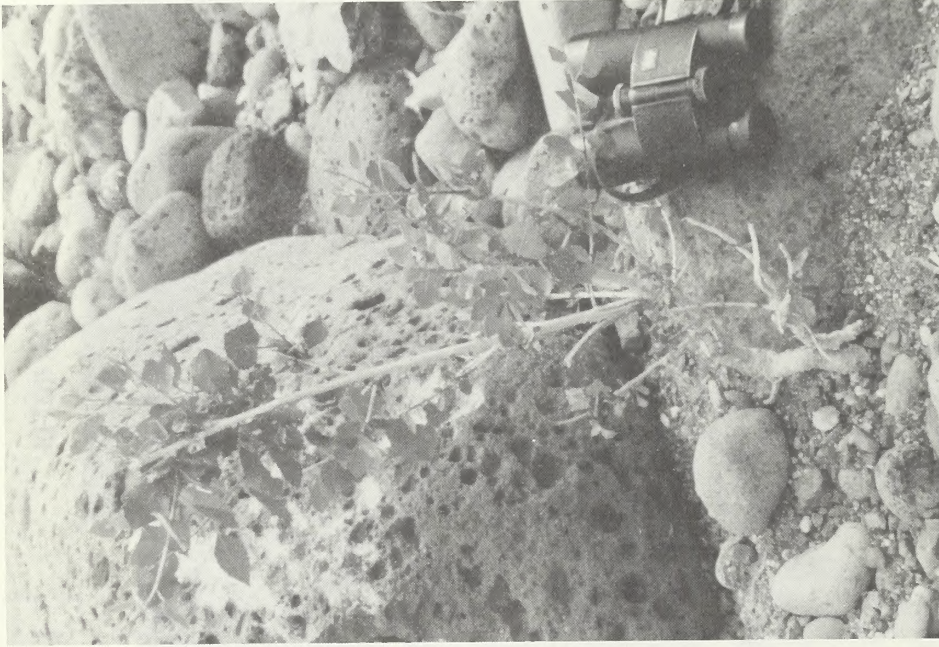


SLIDE NO. 3



SLIDE NO. 2





SLIDE NO. 5



SLIDE NO. 4



unbrowsed and it was straight stalk, although you see many straight stalks that had been browsed, where the little branch would grow right up beside it. That one will probably still be there this October.

Thank you for this opportunity to take so much time.

HEARING OFFICER SWAN: Thank you for your comments. Has Peggy Bryney come into the auditorium? Or Will Osborn?

(No response)

If not, I will ask at this time if there is anyone in the audience that would like to speak. This is your opportunity to do so. We invite you to make any comments that you may have. Just come up and give your name, please.

MR. KEITH QUAIL: I would just like to ask one question. My name is Keith Quail from Prescott. Is it known at this time what the final cost of this particular EIS is going to be when it's finished in September?

MR. JIM CRISP: The total cost of the EIS --

MR. QUAIL: Sir?

MR. CRISP: No, the total cost of the EIS has not yet been added up. Those figures will be available, though, if you're interested in them. They could be added up.

MR. QUAIL: How would one go about obtaining the

figures?

MR. CRISP: Just call our office. We've tried to keep track of this one. It's not that easy, because some of our people are working on things that are partially related. We could get you a reasonably accurate figure in September when we're through with it all, if you're interested.

MR. QUAIL: Okay, fine.

MR. BARKER: Keith, I'll see that you get a figure -- at least a ballpark estimate.

MR. QUAIL: Okay, good. Thank you, Bill.

HEARING OFFICER SWAN: Are there any other people present who would like to give a comment at this time? We welcome any comments -- short -- or up to ten (10) minutes. Do any of you anticipate that anyone that you know of will be coming in later this evening to give a comment, or somebody that we should wait for?

OR. CARL TOMOFF: Could I speak just briefly again?

HEARING OFFICER SWAN: Or. Tomoff?

OR. TOMOFF: I was short in my ten (10) minutes.

HEARING OFFICER SWAN: Okay.

OR. TOMOFF: Thank you very much. I would just like to address a statement that I made at the beginning of my testimony which I did not clarify and that was that the Southwestern riparian communities are very unique and they

are very rich. I would like to take two points of view, one that the species of plants and animals that live in these riparian communities are very high in number. Just to take the birdlife, as an example. There are three (3) general types of birds that occur within a riparian zone. There are those which are -- would absolutely require the streamside habitat for existence, such as the belted kingfisher in the wintertime. The bald eagle, as we've noted, and the black hawk -- mexican black hawk, which reaches it's northwestern-most limit in -- near the Burro Creek area -- northwestern-most in North America.

So there are those species that require that habitat and the plants and animals supported in that system for their existence.

The second group might be considered those which occur right immediately near the drainage, but which find even better conditions within the area, such as those which might be found on the slopes in a canyon system.

A third group might be considered those which occur at any given one point along a drainage that have fingered down from a higher elevation. There is something called the "canyon effect" whereby the cooler canyon provides, sometimes, plants which actually grow at higher elevations and with them come many species of birds that normally

occupy higher environments. So as far as -- oh, there is actually a fourth type -- those which don't live -- don't nest there or breed there, but simply use the corridors essentially as interstates in their migratory flights to and from their wintering grounds south of Arizona.

So if one were to total up the numbers of species in a twelve (12) month period, that might occur over a two (2) mile stretch of Burro Creek, you could probably -- or it has been documented over a hundred and fifty (150) to, perhaps, a hundred and seventy-five (175) species of birds.

Only five (5) miles on either side of the corridor, up in the mesas or in non-riparian communities, that number might be half or possibly even a third or even less. So that the corridors are essentially the interstate for migratory birds. They are the required habitat for some of our rare and some of them, threatened species and it is this combination of sort of origins that partly provides for this great diversity of bird species.

Very briefly, one other aspect of the communities there is the numbers, or the density of birds. Studies in the Verde Valley in the Prescott region have shown that the total number of breeding birds per hundred (100) acres of healthy, deciduous forests along the creek may be anywhere from four hundred (400) to six (600) or even eight

1 hundred (800) pairs per hundred (100) acres. That's in  
2 contrast to something like fifty (50) to a hundred (100)  
3 pairs per hundred (100) acres in a very lush desert  
4 microfill or mesquite type of wash. So that number itself is  
5 a rather striking one and it attests to the importance of  
6 maintaining these riparian communities.

7 I've used the birds as just an example. We could  
8 look at some of the other animals and see some interesting  
9 patterns, but birds do show graphically the importance of  
10 these riparian zones as contrasted with the non-riparian  
11 habitats adjacent to them.

12 Thanks for the extra time.

13 HEARING OFFICER SWAN: Thank you.

14 Yes, sir. Please give us your name?

15 MR. FRANK AIKENS: My name is Frank Aikens. There  
16 are several things that surprise me this evening and there's  
17 several things that don't.

18 One thing that surprises me, the fact that people  
19 that we've heard of -- or heard from this evening, seem to  
20 be exclusively from one area. The focal point seems to be  
21 one specific area of the county, one specific concern.

22 It does not surprise me, you haven't heard the  
23 uprise in the cowmen. Mohave County has been as vocal or  
24 more vocal than any county in the State of Arizona from the  
25

1 livestock aspect and the mining aspect, from the previous  
2 meetings as we're having this evening.

3 There also reaches a point where you can get,  
4 quote, "meetinged out". You can get burnt out, if you will.  
5 And if what you have to say the first time you give input is  
6 exactly how you feel and exactly what you feel the situation  
7 is, why has it changed in basic concept as time goes on?

8 As far as I can see, the major changes, as far as  
9 comments would be to say how fairly or unfairly we feel that  
10 the BLM has judged our -- "our" quote, the cowman's position  
11 in this matter. And I think it's obvious from previous  
12 input and from written statements that you have, verbal  
13 statements that you have that we are alarmed at it. We  
14 feel that it has severe, obviously economic impact and the  
15 mining people have voiced the same concern.

16 If show of faces, representations was what it  
17 would take to impress or to make impact on this particular  
18 situation, we have already demonstrated that -- okay?

19 It comes to the point -- I'll speak for myself.  
20 I won't speak for the group because I'm not qualified to do  
21 that. Myself, for instance, it comes to the point where you  
22 feel that sometimes a meeting is actually called so you can  
23 just get it off your chest. The handwriting is on the wall.

24 All right, your input is part of the system that  
25

1 says when you come to where there's a court mandate or it  
2 comes to the point where you're going to go to the Congress,  
3 they've had the chance -- here it is.

4 And in view of our voice versus the voice of some  
5 of these gentlemen that just spoke this evening, as well as  
6 the Sierra Club and many of these other type organizations,  
7 has been rather small and rather meek. It's gaining in  
8 momentum and I don't know that we, as a cowpeople, felt that  
9 we had -- or the livestock organizations had to actually  
10 muster a force, if you would, to protect our own. And you  
11 can obviously can see strides of those who haven't.

12 I'm -- I didn't come here to make a comment,  
13 obviously. If I had planned some kind of a comment, it  
14 would have been prepared and this is totally ad lib, right  
15 off the cuff. This is exactly what I feel. But I don't  
16 want to be misconstrued from this meeting, number one, from  
17 the head count here and number one, for the lack of the  
18 voice of the cowman and the livestock people, there's not  
19 concern. That's already been demonstrated in Mohave  
20 County. That's how I feel about it.

21 HEARING OFFICER SWAN: Thank you. Thank you for  
22 your comments. Would anybody else like to give a statement  
23 at this time, or ask a question or make a comment or  
24 whatever? I might note that the BLM officials will be  
25

1 around after we close the meeting, so if someone wants to  
2 talk to them personally off the record, I'm sure that that  
3 would be fine, too -- or ask a question or make a comment.

4 But if you would like to say something that is  
5 going to be on the record and be included in the Final  
6 Environmental Statement, now is the time to do so. Or --  
7 or submit a written comment later.

8 (Dr. Witzeman raises his hand)

9 HEARING OFFICER SWAN: You've already had --

10 DR. WITZEMAN: I can't -- okay.

11 HEARING OFFICER SWAN: -- your time, Dr. Witzeman.

12 DR. WITZEMAN: Okay, I won't ask to take any more.

13 MEMBER OF THE AUDIENCE: We heard Dr. Tomoff again  
14 and we listened to him and now I'd like to hear his point  
15 of view. I'll give him my ten (10) minutes.

16 HEARING OFFICER SWAN: I gave Mr. Tomoff an  
17 additional amount of time because he only took six (6) minutes  
18 the first time and I tried to keep him to ten (10) minutes,  
19 total.

20 DR. WITZEMAN: Mr. Swan, I'd like to talk to the  
21 permittees afterwards, if I could. I would enjoy that  
22 opportunity. If any are in the EIS -- the Hualapai-Aquarius  
23 area, I'd like to speak with them.

24 HEARING OFFICER SWAN: Okay, that would be up to  
25



1 the permittees, I'm sure. If they would like to chat with  
 2 you.  
 3  
 4 Yes, sir.  
 5 MR. STEWART ANDERSON: Yes, I believe I would.  
 6 HEARING OFFICER SWAN: Come up to the podium and  
 7 state your name.  
 8 MR. ANDERSON: My name is Stewart Anderson and  
 9 I'm not a permittee of the Hualapai-Aquarius. I'd like to  
 10 address four (4) issues at this time and further comments  
 11 will be written.  
 12 The number one issue is the method of inventory  
 13 estimation. The SVIM method was used. This method has been  
 14 denounced by the Extension Service, the land grant insti-  
 15 tutions, by the eleven (11) western States, the Soil  
 16 Conservation Service and many permittees.  
 17 We have long worked here, since the Black Mountain  
 18 EIS to try and develop a type of vegetative inventory  
 19 management system that is fair and just. This system has  
 20 lost battles in Forest Service cases and it has proven to  
 21 be statistically unsound by our universities.  
 22 The issue of uncontrolled private lands has yet to  
 23 be addressed by the Bureau of Land Management. The Bureau  
 24 steadfastly opposes or fails to recognize the rights of  
 25 adverse possession in range operations where there are

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1 absentee owners. The impact of livestock cuts can be seen  
 2 throughout the Hualapai-Aquarius system on the basis of the  
 3 Bureau failing to recognize the rights of adverse possession  
 4 in uncontrolled private lands.  
 5  
 6 Range condition: As I look through a lot of  
 7 charts, there seems to be a lot of inconsistency with regard  
 8 to range conditions. Many allotments showed the range to be  
 9 fair, good and excellent conditions. When you add the acres,  
 10 those conditions exceed more than half of the total  
 11 allotment. However, the proposals ask for some cuts in  
 12 excess of sixty (60%) percent on these allotments. I feel  
 13 that this is an absurd and a preposterous proposal.  
 14 Deer populations: The number of deer, as viewed  
 15 in several of the charts approaches the unbelievable. These  
 16 numbers appear to reveal not what are, but what the Game  
 17 Department wants there to be. Fecal studies in the  
 18 Mt. Trumble area in the Arizona Strip country over the last  
 19 three (3) years reveal that there is no -- or virtually no  
 20 competition between deer and cattle for forage. The only  
 21 appreciable competition is in the area of forbs, which  
 22 constitute only four (4%) percent of each of the animals'  
 23 diets in those areas studied.  
 24 The deer is an eighty-six (86%) percent browser  
 25 and the studies show that the cow is only a thirteen (13%)

1 percent browser over the long term.  
 2  
 3 The other area is quite significant that I would  
 4 like to cover and it covers the basic front page cover of  
 5 the EIS. It may be immaterial. It may be unimportant, but  
 6 the burro is the largest animal there the deer is the next  
 7 largest thing and the ocotillo the third largest thing.  
 8 Since the prospector released the burro, never in the history  
 9 of man have either of the two (2) species, ocotillo or the  
 10 burro contributed anything whatsoever to the Gross National  
 11 Product.  
 12 I say that if this is the degree of importance,  
 13 the largest thing being the most important, the BLM has yet  
 14 to recognize the system of the joint-use concept and it has  
 15 its priorities very misinterpreted.  
 16 Other technical comments that I have on the  
 17 Hualapai-Aquarius EIS will be submitted in writing. Thank  
 18 you, gentlemen.  
 19 (Applause)  
 20 HEARING OFFICER SWAN: Thank you, Mr. Anderson.  
 21 Would anyone else want to make a statement at this time?  
 22 (No response)  
 23 Does anyone else want to get anything off their  
 24 chests? It's a good time.  
 25 DR. WITZEMAN: Mr. Swan, is it possible to ask if

K-6

1 any of the permittees in the Hualapai-Aquarius area are here?  
 2  
 3 MEMBER OF THE AUDIENCE: Yes, there's a whole bunch  
 4 of us here.  
 5 DR. WITZEMAN: Could they raise their hands?  
 6 (Show of hands)  
 7 HEARING OFFICER SWAN: Any further comments?  
 8 MR. VERNON STATLER: I don't have to go up there  
 9 to say one thing: My name is Vernon Statler. I've lived  
 10 here maybe fifty (50) years and I've yet to see a cow eat a  
 11 cottonwood tree.  
 12 HEARING OFFICER SWAN: I think the gentleman's  
 13 comment was he'd yet to see a cow eat a cottonwood tree.  
 14 MR. ANDERSON: BLM burros eat cottonwood trees.  
 15 (Laughter)  
 16 MR. STATLER: You took care of them already.  
 17 HEARING OFFICER SWAN: Please use the podium, if  
 18 you can, so we can record your statements.  
 19 Any other comments before we close the meeting?  
 20 If not, we're going to close this hearing.  
 21 MS. GERALDINE CAVALIER: How does a bird know where  
 22 to go over a fence? I've been living in the country for  
 23 sixty-five (65) years -- I'm Gerry Cavalier and I live on  
 24 this Hualapai-Aquarius. I just want to know how that bird  
 25 knows where that fence is?

MR. BARKER: What burro?

MS. CAVALIER: That bird. Why, that bird that needs a fence. I want to know how that bird knows that fence is there.

HEARING OFFICER SWAN: Any other comments?

(No response)

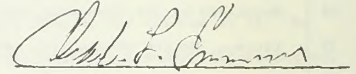
HEARING OFFICER SWAN: If not, we're going to close this hearing and consider it to be closed for the evening. Thank you very much for your attendance.

(Whereupon, the hearing in the above-entitled matter was closed at 8:20 p.m.)

C E R T I F I C A T E

THIS IS TO CERTIFY THAT the foregoing proceedings before the Bureau of Land Management, U. S. Department of the Interior were held as herein appears and

THAT the foregoing pages 1 through 33 are a true and correct transcript of my stenographic materials taken at the time and place hereinbefore written.



Charles Emmons  
CHARLES EMMONS & ASSOCIATES  
3920 East Indian School Road  
Suite No. 6  
Phoenix, Arizona  
Official GSA Contract Reporter

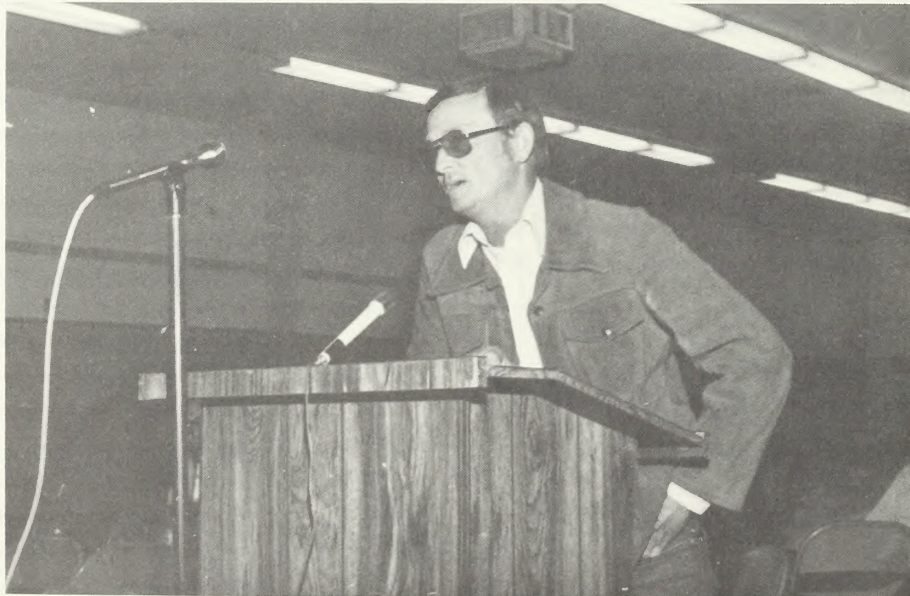


Photo by Todd Glasenapp

Frank Aikens, a grazing permittee operating in the EIS area, presents testimony concerning the impact of BLM's proposal on the local rancher.



RESPONSE - KINGMAN HEARING

- K-1 Under the proposed action, specific systems, developments, and management actions needed to improve riparian habitats would not be identified until activity plans are developed for livestock grazing, wildlife habitat, and wild burro management (see Measure 17, draft EIS, page 34 and General Response 2).
- K-2 See General Response 4.
- K-3 BLM's handling of uncontrolled lands is a matter of established policy and interpretation of State law and thus lies outside the consideration of this EIS. See Response 17-7 for a more detailed explanation of BLM's interpretation of applicable State statutes.
- K-4 Rangeland condition estimates reflect ecological condition and cannot be tied directly to forage production in determining initial stocking rates for livestock. During the consultation process individual operators will have opportunities to present information that they feel should bear on BLM proposals for stocking levels. General Response 3 explains how this consultation would be accomplished.
- K-5 Appendix 2-7 (draft EIS, page 163) explains how big-game numbers were estimated for each allotment. These numbers were determined using the best existing information for the planning area through coordination with the Arizona Game and Fish Department. Appendix 2-6 (draft EIS, page 162) shows present big-game estimates by allotment and reasonable numbers, which reflect the present estimated forage carrying capacity for big game. As BLM and the Arizona Game and Fish Department acquire additional data, allocations may change.
- K-6 The cover design includes representatives of all three categories of grazing animals found in the EIS area and was intended to show the nature of the conflicts addressed in the EIS. Physical proportions of the various elements reflect the illustrator's need for perspective and balance, not the BLM's sense of priorities. Resource management priorities for this planning area are established by law and regulation, not by cover design.

THE UNITED STATES DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT  
 DRAFT ENVIRONMENTAL IMPACT STATEMENT )  
 )  
 PROPOSED GRAZING MANAGEMENT PROGRAM )  
 for the )  
 HUALAPAI-AQUARIUS EIS AREA )  
 Mohave and Yavapai Counties, )  
 Arizona. )

Meeting Room  
 Rodeway Inn  
 3400 North Grande Avenue  
 Phoenix, Arizona

Thursday, April 23, 1981

Pursuant to Notice and Publication, the above-captioned matter came on for

PUBLIC HEARING

at 7:30 o'clock, p.m.

BEFORE: BILL SWAN, Hearing Officer  
 Attorney at Law  
 Office of the Field Solicitor  
 U. S. Department of the Interior

PANEL MEMBERS:

BILL BARKER  
 District Manager  
 Phoenix District  
 Bureau of Land Management

JIM CRISP  
 EIS Team Leader  
 Phoenix District  
 Bureau of Land Management

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PANEL MEMBERS (Continued):

ROGER TAYLOR  
 Area Manager  
 Kingman Resource Area  
 Bureau of Land Management

I N D E X

SPEAKERS:

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Bill Barker -- Call to order, introductions and opening statement	3
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Mr. Jim Becker -- speaking as an individual	7 and 43
Mr. Scott Terrill -- ASU student, as an individual	8
Dr. Ken Asplund -- Prescott City Council, an individual	11
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Mr. Robert Barsch -- member of the Wildlife Society	21
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Dr. Thomas Danielsen -- speaking as an individual	31
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Mr. Ken Rosenberg -- speaking as an individual	40
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P R O C E E D I N G S

MR. BARKER: Well, I guess we might as well get started. I'll start off with a few introductions.

My name is Bill Barker. I'm the District Manager for the Phoenix District of the Bureau of Land Management.

Starting on the left over here is Jim Crisp, who is the Team Leader for the team that prepared the Environmental Impact Statement that we're here to discuss tonight.

We have Roger Taylor, who is the Area Manager for the Kingman Resource Area.

And on my right, is Bill Swan, who will serve as Hearing Officer this evening. He's with the Field Solicitor's Office.

The purpose of the hearing is to receive public input on the adequacy of the Draft Environmental Impact Statement covering the Proposed Livestock Grazing Program for the Hualapai-Aquarius Planning Area in Mohave and Yavapai Counties.

Availability of the Draft Statement and Notice of the Hearing were published in the Federal Register in March, 1981.

The Environmental Impact Statement is required by the National Environmental Policy Act of 1969 in response to

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the 1974 court settlement initiated by the National Resources Defense Council.

The Hualapai-Aquarius EIS is the second such statement to be completed in the Phoenix District and the second also for the Kingman Resource Area.

We have developed a proposed land use plan or management framework plan which includes the Proposed Rangeland Management Program analyzed in the Environmental Impact Statement. Final decisions on the proposed management framework plan will not be made until at least thirty (30) days after the filing of the Final Environmental Impact Statement with the Environmental Protection Agency.

The proposed action of intensive grazing management and four (4) alternatives are described and analyzed in detail in the Impact Statement. The final decision may result in acceptance of the proposed action or some combination of the proposed action and the various alternatives.

To meet the court-ordered schedule, the Final Environmental Impact Statement must be filed with the EPA by September 30, 1981.

Comments on the Draft EIS are requested for a period of sixty (60) days from the date of publication or until May 12th of this year.

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Comments received after that date will be considered in the decision process, even though too late for inclusion in the Final EIS.

Comments should be sent to Arizona State Director, Bureau of Land Management, 2400 Valley Bank Center, Phoenix, Arizona 85073. All written and oral comments will receive equal consideration and will be addressed in the Final Statement.

I will now turn the hearing over to Bill Swan, who will let you know about the conduct of the hearing, itself.

HEARING OFFICER SWAN: I have a few things that I want to emphasize before we get started. First of all, I would like to emphasize that the document is a "Draft" Environmental Impact Statement. The Final Impact Statement will include public comments, responses to public comments and questions and necessary changes and corrections. So accordingly, the meeting tonight is not necessarily for the purpose of answering questions by the BLM officials. However, they are here and they can answer questions if it's necessary, but I do want you to understand that any question that you pose tonight will be addressed in the Final Environmental Impact Statement.

The other thing that I want to emphasize is that

I am an attorney for the Department of the Interior. I'm not employed by the BLM. My purpose here tonight is simply to run the meeting, to make sure that everyone takes a certain amount of time to speak and that we have an orderly hearing.

A couple of rules that we would like to follow this evening are as follows:

We would like to limit speakers' time to ten (10) minutes apiece, since we have about thirteen (13), fourteen (14) or fifteen (15) speakers. If you can keep it under ten (10) minutes, that would be appreciated.

I will call names as I have them on the list and when I have finished the list, I will call and see if there is anyone else in the audience that would like to give a statement.

I would like to emphasize that we would appreciate your using the podium whenever you give comments because we have a microphone there and that's the only way that we can record your statements and include those statements in the Final EIS. If you speak from the audience, we may not be able to get the statements on the record.

When you come up to the podium, we would appreciate it if you would first state your name before you initiate your comments. Are there any questions on how we will

proceed with the hearing?

(No response)

If not, I will call the first speaker. Is Lois Becker here? Yes, sir?

MEMBER OF THE AUDIENCE: I would like to ask you, would it be possible -- is there provision for smoking in the room and if not, could we make some decision on that? I see no ashtrays. I prefer that there not be smoking if that's not a hardship on somebody.

HEARING OFFICER SWAN: I don't think we're going to have a very long hearing. We can probably postpone smoking until later on. Is Lois Becker here? Yes, sir.

MR. JIM BECKER: Can I substitute for her?

HEARING OFFICER SWAN: I suppose that would be okay.

MR. BECKER: Okay, I'm slightly hoarse, but I should make a reasonable substitute. My name is Jim Becker and I live in Tempe. I first want to compliment the BLM for the great job they've done in pulling together the great amount of rather objective material that's included in the Draft EIS.

I read through it, not extremely thoroughly, but I did not find the word "diversity" anyplace in the document and I do believe that it's a rather important concept and

falls under multiple use, which obviously, this land is intended for.

Specifically, I notice that certain species would very probably disappear from the area and as I read the document, these species would disappear because there would not be adequate nesting sites.

If it would be possible, I would like to request that the final plan would include protection for trees, so that nesting sites could be provided. Protection might be provided by fencing. I notice that you will do some fencing, provide water and other provisions for cattle and wildlife and it's possible that this added fencing could be included to protect trees, specifically for raptor nesting.

HEARING OFFICER SWAN: Thank you for your comments. Is Scott Terrill here?

MR. TERRILL: I appreciate the opportunity to make a few brief statements. I also want to compliment you on a good and thorough job on the EIS. It's a rough thing to put together. And I think you were objective in it, also.

My name is Scott Terrill and I'm a graduate student in the Department of Zoology at Arizona State. My primary concern is with the handling of the management of the riparian ecosystems in the area.

I think that the proposed action is good as far as



1 most of the wildlife issues addressed and perhaps balancing  
2 the grazing, also. However, riparian ecosystems, I'm sure  
3 that you're becoming aware or are already aware of, are a  
4 very rare item in the Southwest and are important for not  
5 only a few primary species like black hawks, but for a whole  
6 range of organisms in the ecosystems that are highly confined  
7 to each ecosystem.

8 I think that if you could somehow put into your  
9 proposed action some riparian protection, including  
10 regeneration, maybe for a limited amount of time, could be  
11 determined to bring regeneration about. If you could  
12 implicate that into the proposed action, that would be a  
13 good, positive thing to do.

14 I didn't see any cost-benefit ratio as far as some  
15 of the riparian -- saving some of the riparian areas or  
16 fencing off certain riparian areas. Are they in there? Did  
17 I miss them? I mean, you have certain alternatives and you  
18 have cost differences and perhaps, looking at cost  
19 differences, grazing as opposed to non-grazing, including  
20 fencing, would be a thing to put into your Final EIS.

21 So I think, just briefly to close, that to live  
22 up to the responsibility that you state under the BLM Code  
23 6740, that you do have responsibility and that riparian is an  
24 important component to be considered as manageable in your  
25

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1 areas and that the best management would be restoration and  
2 regeneration of the habitats.

3 Thank you.

4 HEARING OFFICER SWAN: Thank you. Did you have a  
5 comment, Jim?

6 MR. CRISP: You asked a question about cost-benefit  
7 analysis --

8 MR. TERRILL: Yes.

9 MR. CRISP: -- and I'd -- if it's all right, I'd  
10 like to answer that. Our handling of benefit-cost analysis  
11 is somewhat narrow at the present time. There is an attempt  
12 to incorporate into that benefits derived from as many  
13 resources as possible and according to our Economist, the  
14 state of the art in bringing in benefits that accrue, say,  
15 to wildlife resources and certain kinds of recreation  
16 resources are really very difficult, if not impossible, to  
17 address. So these are not really reflected in those figures  
18 that we quote in Chapter 4.

19 MR. TERRILL: Okay, I understand that.

20 MR. CRISP: We would like to develop the methodology  
21 and there are people who are playing with that now in the  
22 Forest Service and in BLM, but until something concrete and  
23 acceptable is derived, we may not have hard figures.  
24 However, we will try to consider those, obviously, in the  
25

1 final decision without the rigorous benefit-cost ratio.

2 MR. TERRILL: Okay. Thanks.

3 HEARING OFFICER SWAN: Is Dr. Thomas Danielsen  
4 here?

5 (No response)

6 Ken Asplund?

7 DR. ASPLUND: My name is Kenneth Asplund and I  
8 live in Prescott, Arizona. I first moved to Arizona in 1961  
9 and I have been in Prescott since 1974.

10 I have a doctorate in biology with an emphasis in  
11 ecology from UCLA and I have been teaching in the field of  
12 environmental studies since graduate school in 1968. I've  
13 participated in a number of projects that specifically focus  
14 on the nature of, primarily, riparian communities in this  
15 State. I've been through much of the area in question. I've  
16 been through most of the Verde and East Verde. I've been  
17 the length of Burro Creek, Trout Creek, much of the Sandy  
18 River and I think that I must have to say I think I've  
19 seen samples of most of the kinds of riparian habitat in the  
20 state. Also, I would like to speak as an elected City  
21 Councilman. I was elected there and have served now for  
22 almost three (3) years and I was elected on the platform --  
23 or with the principle that I wished to support a conservative  
24 approach to our environment and also a healthy economic  
25

1 growth. I believe that our quality of life depends on given  
2 certain economic opportunities, we must also have that  
3 environment that makes the place worth living in, outside of  
4 our businesses and our other enterprises.

5 I think that I'd like to also repeat that I've  
6 been very much impressed with the work and attention that  
7 has gone into this report and I was really pleased to see  
8 the effort made to limit grazing to fifty (50%) percent of  
9 the annual yield of key species. I think that's an excellent  
10 principle. I think that -- I'm not sure that that is going  
11 to be adequate in the long run. After all, we have our  
12 desert species really -- have ways of really dealing with  
13 drought and when drought comes by, they don't tolerate  
14 grazing very much and nature -- the animal will leave the  
15 area very often when there's drought and we do not have that  
16 opportunity to have our grazing animals leave the area.

17 I recognize that you have made some allowances for  
18 or adjustments in time of drought. I just wanted to say that  
19 I'm not sure that that is adequate. I respect that you have  
20 made that step in that direction, based upon respective  
21 research in the field. And I think that was commendable.

22 I would like to spend some comments -- or make some  
23 comments concerning the riparian habitats. We certainly see  
24 those habitats, not only in terms of their natural history,  
25



only in terms of their wildlife, but in terms of one of the most, if not the most endangered habitats in Arizona. It also gets some very heavy use from grazing and I think that riparian habitats deserve, perhaps, extraordinary measures, because I feel that they are in a rather critical point in their history, the way they are by and large being used at this time, as you already realize many species are not reproducing. Even -- especially, rather, our cottonwoods -- even they, in the long run, would be ultimately threatened if the grazing were allowed to continue because of failure of replacement -- or recruitment into the reproducing populations.

So I feel that your wildlife enhancement plan deserves stronger attention.

I can appreciate that also a few other points on the wildlife enhancement. I have also been on the mesas around the Burro Creek drainage and I am sure many of you realize that the basalt weathers into a clay, as will many stuck four-wheel drive operators will testify to. I am pleased to see the concept of wildlife enhancement applied to those mesa tops, because I believe that -- and I did not see an analysis of this in your report here, but I believe that revegetation of the clay mesa tops may very well affect the percolation rate of water into the basalt aquifers that

feed Burro Creek and that will augment its year-'round flow and will perhaps control its annual flooding, followed by subsequent low-flow rate.

Lastly -- or another small point. And I know it's going to affect some people one way and others another, and that's on the burro controversy. I respect the evidence that, yes, there was some species like a burro during the Ice Ages. Unfortunately, the burro has had a history of domestication and its behavior surely is not like that of the old fossil. I'd suggest that the best way to deal with the burro management is with extreme control. My personal opinion is that the burro should be reduced to their minimum numbers and kept at a low level for, perhaps, primarily its historical and cultural value.

Now, I can appreciate that when it comes to wildlife enhancement, this is the most, perhaps, controversial way to go about this and I understand that the proposed plan may parallel in some ways the results of the wildlife enhancement. I would point out, though, that -- I think that most of us realize that we have had an extraordinary history in this state of overgrazing and it isn't a question of, do we eliminate cattle, but we are faced with what do we do now, already faced with a hundred (100) years of mal-treatment of the landscape.

We've all been paying for overgrazing. Hard figures are difficult to come by, but you can be dead certain that we as taxpayers have been paying for overgrazing that has been filling in our basins, our lakes and silting in our streams and causing, perhaps, more extraordinary flooding in the Phoenix area and more demand for dams than we would have had if we had had proper grazing in the uplands to begin with in this part of the century.

We see those patterns and now we're at a situation where our most endangered habitats are about to become terminal cases if we do not take courageous steps now. I think that it is at the point where it is almost irresponsible for any government agency to continue to abuse the land or to aid and abet the abuse of the land that has happened in the past. And again, I commend you for beginning this process.

The more we delay a change of this sort, the more cost we're going to encounter for the problems of watershed management and for restoration, so if we take our steps now -- or if we wait, rather, perhaps we're going to have to spend more money in our restoration program. We're going to have to have nurseries in every canyon to start growing cottonwood trees to replant. But if we do it now while nature has a little capacity left to help us out, just for

the asking, now is the time to do it.

HEARING OFFICER SWAN: Thank you for your comments. Has Dr. Thomas Danielsen come into the room?

DR. DANIELSEN: Yes.

HEARING OFFICER SWAN: Would you like to give your comments now?

DR. DANIELSEN: I think I might pass until later, if that would be all right?

HEARING OFFICER SWAN: Fine. Is Beth Medrano here?

MS. MEDRANO: My name is Beth Medrano and I live in Phoenix. I think tonight you're going to hear many comments spoken in many ways from many backgrounds and many of them will say the same thing.

We think this area and the riparian areas in it are very special. I assume that at least some of you have television sets and you may have seen the commercial where the girl shows us her beautiful hair and says, I color my hair with this product. It costs a little bit more, but I'm worth it. And basically, I think that's what we're trying to say, too. We're not naive about how much this is going to cost, but we think these riparian areas are very special and we think they're worth it.

Tonight, I would like to speak on behalf of the



over twenty-six hundred (2,600) members of the Grand Canyon Chapter of the Sierra Club. They're going to be sending in some written comments in the mail in the following week. I am just going to highlight a small part of it and try to put some of it in my own words.

Our Chapter has participated whenever public input was sought in the planning process now under way in the Hualapai-Aquarius Planning Unit. This area contains outstanding scenery and recreation opportunities and some of the finest desert wilderness in the West.

Most importantly, the Planning Area represents the most diverse biotic area of its size on the Public Lands in Arizona. The wildlife inventory identified twenty-five (25) habitat types and over three hundred ninety (390) wildlife species. This very special land deserves very special protection.

The Draft Grazing Environmental Impact Statement indicates that the proposed action will not reverse the deteriorating condition of the riparian areas contained in this planning area. Quoting from page 79, "The trend is currently 50% static and 50% downward." -- end of quote. And this refers to riparian areas which have already been seriously damaged by livestock use. We are dismayed to find that almost all of the MFP-1 wildlife recommendations

affecting riparian areas had been eliminated from the proposed action, riparian areas which represent only a minute portion of the planning area and are by far the most critical to wildlife protection.

As you have already heard tonight, the threatened black hawk, endangered eagle and the zone-tailed hawk all utilize the riparian areas of the planning area, yet their success is severely limited by the fact that livestock and burros are completely eliminating establishment of cottonwoods, willows and ash along the watercourse. We cannot endorse this plan which fails to come to grips with the most critical problem facing BLM, the accelerating destruction of the very heart of the planning area, its riparian resources.

HEARING OFFICER SWAN: Thank you. We sincerely apologize for the noise behind us. Maybe I can emphasize that the important thing is that your comments are recorded by the machinery and not necessarily heard so well by the rest of us, so I think that our efforts -- (music begins playing) -- why don't you go see about it? (Jim Crisp departs)

Let's continue anyway. Is Jerry Nelson here?

MEMBER OF THE AUDIENCE: No.

HEARING OFFICER SWAN: Jerry Nelson is not here?

MR. NELSON: Yes. My name is Jerry Nelson and I represent the Palo Verde Group of the Sierra Club which is

based here in the Phoenix area. The Burro Creek Watershed is one of the most valuable wildlife resources in Arizona. However, like other riparian areas in the planning unit, it is seriously deteriorated and producing plant growth at a rate far below its potential.

During the wet season of the two (2) previous years, our members have witnessed first-hand the elimination of cottonwood and willow seedlings which sprouted along the Burro Creek watercourse. Ample evidence exists to indicate that the proposed action will not remedy the habitat deterioration which may result in the loss of sensitive and endangered species from the planning unit.

Therefore, we urge BLM to implement the alternative which would eliminate livestock from these riparian areas and allow for the dramatic recovery described in the wildlife enhancement alternative. Thank you.

HEARING OFFICER SWAN: Thank you. Is Cindy Edwards here?

MS. EDWARDS: I'm Cindy Edwards from Phoenix. I'd like to also compliment BLM on their work to write this Draft EIS, compliment you on the inventories that were taken and the large amount of information that was gathered.

I think that it is good that in your Draft EIS you've proposed to reduce livestock numbers so that useful

forage production and plant cover are increased and range conditions improved.

I also would like to compliment you for allocating forage to big game, also so that mean annual utilization won't exceed an average of fifty (50%) percent. And I also would like to compliment you for your effort to reduce the burro population by eighty-four (84%) percent. I think that's very necessary.

I've got several problems with the proposed plan, like most other comments that have been said tonight. You have admitted that under your proposed plan, all the riparian areas would continue to degrade. In Chapter one, in your list of specific objectives for the EIS, you state that you want to improve and protect riparian communities and in Chapter Two, under Measures for Resource Protection and Enhancement, you list the only measure that you may take to improve riparian communities as supplemental planting of broadleaf trees, but you really didn't state very clearly if you were going to do this and it's not enough. We need selected areas to be fenced from livestock grazing for longer periods of time to also allow for natural reproduction.

Okay, you also admit that major long-term improvement is prevented by heavy livestock use and propose that wildlife would probably bear the major burden from the abuse of the



1 21  
2 riparian areas -- black hawk, bald eagle and zone-tailed  
3 hawks declining in population possibly, as you admit in the  
4 Draft EIS, that the black hawks may be gone in twenty (20)  
5 years.

6 You also -- in Chapter 4, you mention a fence  
7 design where you may do this, stating that you want to  
8 route fences around the riparian habitat so that some areas  
9 are used and others are not, at certain times of the year.  
10 Yet, under this, you still admit that this method would not  
11 provide for significant riparian recovery.

12 Under your Unavoidable Adverse Impacts you state  
13 that "unfenced spring and riparian habitats would remain in  
14 unsatisfactory condition." But I don't feel that this is  
15 an unavoidable impact. We would like to see some positive  
16 action to mitigate the destruction of riparian habitat.

17 Also, in your Final EIS, I would like to see --  
18 maybe I just missed it -- make it a little bit more clear.  
19 All the additional fencing that's going to be done to  
20 implement your proposed plan, I'd like to see that all  
21 fences are modified to allow for safe wildlife passage.  
22 That's all.

23 HEARING OFFICER SWAN: Thank you. Is Robert Barsch  
24 here?

25 MR. BARSCH: My name is Bob Barsch. I think Cindy's

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1 22  
2 comments are relevant to -- or should I say that for the  
3 Wildlife Society -- Cindy and I are both members of the  
4 Wildlife Society and I think you can take her comments, which  
5 would probably be more apropos to -- she's had a more in-  
6 depth study of it than I have.

7 However, I did go over it briefly and I have a  
8 few comments. Again, it's pretty glaring, I think, in the  
9 proposed alternative that the riparian areas are going to be  
10 impacted unfavorably and the multiple-use concept doesn't  
11 seem like a very worthy objective. Perhaps fencing of some  
12 of these areas, or long-term rotational grazing systems that  
13 would allow the cottonwoods and willows and ash trees to  
14 grow to a point where browsing by cattle, primarily, will not  
15 kill the plants -- maybe this would be an alternative.

16 I had some other -- these, I don't think -- these  
17 are more personal here and they don't really relate to the  
18 Wildlife Society, or comments that the Wildlife Society might  
19 make. I have a question about soil erosion under the pro-  
20 posed alternative and the question is, is this really going  
21 to stop soil erosion to a point where you reach a stable  
22 situation, or is it just going to slow down the rate of  
23 soil erosion that is occurring on the area? And I think that  
24 once you start losing the soil, you start losing the  
25 productivity of the land and this is, I guess, as any

1 23  
2 biologist or geologist or farmer or anybody that really has  
3 any feel for the land at all knows that's the most basic  
4 question. So I would like to see that question addressed  
5 and answered. Or perhaps, if it's not known, which is  
6 probable, it should at least be monitored.

7 Another I noticed that on page 81, you mention that  
8 sixty (60) water developments -- new developments, I suppose  
9 -- will be implemented and the effect of this would be to  
10 distribute livestock grazing into some areas that are now  
11 lightly grazed and perhaps some that are very lightly grazed.  
12 And of course, this will help some areas, but I'd like to  
13 point out that there are species of wildlife in the state  
14 that primarily exist because they're far from water. And  
15 I'm sure this occurs for certain plant species that are rare.

16 And there are a number of species in the state --  
17 any state -- I mean, any -- a lot of the species we have  
18 are not for rugged terrain and distances from water that  
19 these might have been eliminated. They would have been.

20 You also address fire in your Draft EIS and I think  
21 what you said was that with more fuel produced with re-  
22 strictive grazing that there would be more wildfire and what  
23 I really would like to see is instead of the BLM duplicating  
24 the Forest Service syndrome of a Smokey Bear concept, is that  
25 if you would adapt early -- a let-burn policy for all

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1 24  
2 habitats above a desert scrub. I don't think you have a lot  
3 of developments up in the Hualapai and so I think that would  
4 probably be a good idea.

5 At the same time -- well, I'll mention something  
6 else: What we could do with that extra money, that's not  
7 wasted. The other thing I want to mention is that I want to  
8 compliment you on the idea of reducing the burros on the  
9 area. It's my understanding that you're required by law to  
10 keep it at a certain level, the level that it was at when the  
11 wild horse and burro law went into effect. And so if,  
12 certainly, that is your mandate, then it would be well to  
13 do that. And I would compliment you on that.

14 And the other thing, I think, is an administrative  
15 problem that the BLM has. And there's going to be a lot of  
16 people who disagree with me on this, but I think that most  
17 of the ranchers in the area -- most ranchers are not really  
18 against good range conditions and they are not really against  
19 having grass up to the bellies of their cattle and all that  
20 kind of thing. But what they're really interested in is  
21 money. They're interested in economic survival and these  
22 are difficult times and I do not really understand why,  
23 since we're already subsidizing this operation, that some  
24 monies are not laid aside to help these people get through  
25 this and I do not see why the nation as a whole does not --



1 does not take the responsibility for what we have allowed to  
2 happen. And it was not really these individuals that are  
3 any more responsible, you know, than our forefathers of the  
4 attitudes of fifty years ago. And so instead of -- and I'm  
5 going to say, wasting money on fire -- fighting fires, which  
6 are millions of dollars, literally, are wasted on that every  
7 year, that some of these monies -- I know that this is maybe  
8 an administrative impossibility, but in fact, I think it is  
9 a very good idea, in my opinion and that we should help some  
10 of these people get through this and I think that this is  
11 what -- if we helped them do this, if we could in any way,  
12 through some legislative action or whatever, it would help  
13 us all to come together and to grips with this problem,  
14 which is really a national problem and the individuals out  
15 there on the ranches should not be saddled with it whole --  
16 you know -- a hundred percent.

18 HEARING OFFICER SWAN: Thank you. Is Scott Burge  
19 here?

20 MR. BURGE: My name is Scott Burge. I'm  
21 representing the Maricopa Audubon Society tonight. The  
22 Maricopa Audubon Society, whose primary pursuit is the  
23 protection of riparian areas, would like to make some  
24 comments on the proposed action, but first, we would like to  
25 compliment the Bureau of Land Management on many of the

2 things that they have put in here, including rolling back  
3 some of the grazing levels, particularly reduction of the  
4 burro herds are among them, too.

5 Now, the Maricopa Audubon Society is quite pleased  
6 with the beginning of this EIS and on page 55, they extoll  
7 quite eloquently the beauty of riparian areas and even taking  
8 a quote: "Regardless of the species, riparian vegetation is  
9 the most valuable wildlife habitat in Arizona." And when I  
10 was reading this on page 55, I was quite happy. Then, upon  
11 page 59, came the knife in the ribs, so to speak, with the  
12 fact that black hawk populations will remain the same in the  
13 short term. In the long term, black hawk habitat and  
14 populations will begin a sharp decline.

15 And there is -- well, as you can see, most of the  
16 people's concern is here. The Maricopa Audubon Society is  
17 concerned about the riparian areas and the productivity of  
18 those areas for birds, mammals and what have you, in terms  
19 of wildlife. We are not particularly interested in getting  
20 the ranchers off the land. We have in our past, taken many  
21 ranchers to court. In fact, we have a suit against -- had a  
22 suit against the Tonto National Forest, in which we said  
23 they were not fulfilling their obligation to the Endangered  
24 Species Act. Whereupon, the Tonto National Forest called  
25 together ranchers and after, I would say, a few brief

2 meetings, the ranchers, the Audubon Society and indeed, even  
3 the Arizona Cattlegrowers' Association came to an agreement  
4 on the fact that there was a way of bringing back the  
5 riparian area, which the cattlegrowers would not find too  
6 offensive and the Audubon Society and people concerned about  
7 riparian areas would find adequate.

8 In other words, we do not believe that all that it  
9 is really necessary to kick the rancher off the land. What  
10 we do think is that there are some innovative and imaginary  
11 techniques to get the trees far enough into the air so the  
12 cattle can't graze them. That's our problem, that when --  
13 from the moment those seedlings go in, until they get ten  
14 or fifteen feet, they are there for the cattle to eat. Once  
15 above that height, they have no problem and so, I think what  
16 the Audubon Society is trying to say in the nicest way we  
17 can is that we're not against the grazing. We're only  
18 against the overgrazing when those trees are on their way up.  
19 Once they are up, you can leave the cattle back.

20 I hope that the BLM can talk to the Forest Service  
21 and to the Arizona Cattlegrowers' Association and the  
22 ranchers who are affected in the Tonto and to find out if,  
23 in fact, cattle grazing and riparian areas cannot be both  
24 managed side by side. Thank you very much.

25 HEARING OFFICER SWAN: Thank you. Sue Monroe.

2 MS. MONROE: I'm Susan Monroe. I am a biologist  
3 and environmental consultant and I was a participant as a  
4 wildlife representative in the URA and MFP, Step 2 Public  
5 Workshops concerning the Hualapai-Aquarius Planning Unit.

6 Throughout those workshops, the importance and  
7 sensitivity of riparian systems, especially Burro Creek,  
8 were emphasized by the participants.

9 Paraphrasing from a BLM synopsis of the MFP, Step  
10 2 Workshops which were in held in Kingman about a year ago,  
11 it was -- the participants there recommended that, first of  
12 all, fencing be implemented along the -- or fencing off  
13 riparian vegetation be implemented to allow for recovery of  
14 the riparian zones. And secondly, that grazing be eliminated  
15 in the Burro Creek Allotment, since the Allotment is com-  
16 paratively small, with a small cattle herd and since all  
17 the land within the Allotment is publicly owned, with only a  
18 small part suitable to grazing. And the participants said  
19 that such elimination would protect the important riparian  
20 vegetation on Burro Creek.

21 I was surprised to note that neither of these  
22 recommendations were implemented or recommended in the  
23 proposed alternative. In fact, the Environmental Impact  
24 Statement states that with the proposed alternative, number  
25 one, the riparian vegetation -- or the riparian habitat



quality would not improve, due to heavy grazing and the dependent wildlife populations would start to decline.

Number two, that the riparian habitat of federally endangered bald eagles would decline in productivity and bald eagles would cease to winter in the Environmental Impact Statement area.

Number three, that in the long term, the State threatened black hawk populations would be nearly eliminated from the EIS area.

Number four, that in the long term, state-listed zone-tailed hawks would decline as suitable nest trees became scarce.

And number five, that the proposed action alone would not meet BLM's objectives for protection and improvement of riparian habitat and nor would I think it would meet the Executive Order.

The riparian vegetation in general has been documented to be the most productive and the most sensitive habitats of the North American habitats. The Wildlife MFP, Step 1 for this unit identifies the riparian systems within this unit as the most productive habitat in this unit.

The Burro Creek area within the planning unit is especially productive and sensitive to cattle pressures. In October, 1979, the BLM report states that on Burro Creek

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many of these adverse overgrazing impacts are noticeable. Regeneration of the corridor forest is nonexistent and all but isolated segments of upper reaches of Francis, Conger and Pine Creeks, despite the dispersal, germination and initial growth of seedlings throughout the drainage. Grazing and trampling have prevented establishment.

So the Burro Creek area and especially the Burro Creek Allotment is documented as a very productive riparian area. It contains the largest known concentration of wintering endangered bald eagles in the western part of the state. It contains a significant number of nesting black hawks, as well as several nesting zone-tailed hawks. It also contains productive native fisheries.

Burro Creek was also nominated as an ACEC, which I didn't see reference to in this EIS and I would be curious as to what happened to that nomination, because that further documents the fact that Burro Creek is a very sensitive and special area.

So first of all, it appears that the sensitivity and importance of the riparian areas, especially Burro Creek, were not covered as completely as they could be in the Environmental Impact Statement. It also appears that they were not given due consideration in the decision-making process in coming up with the proposed action.

I would like to see that in the Final EIS that the riparian mitigation measures outlined on page 126 be very specific, state as to which areas are going to be fenced, instead of saying things like "riparian pastures could be implemented", say where they are going to be implemented. And also state specifically and implement plot -- cottonwood plot fencing.

I would also like to see that the proposed action for the Burro Creek Allotment be changed to incorporate the wildlife enhancement alternative as the proposed plan, which would be a ninety (90%) percent reduction in the cattle allotment. Thank you.

HEARING OFFICER SWAN: Thank you. Dr. Danielsen are you prepared at this time?

DR. DANIELSEN: I'm Tom Danielsen. What I have to say is just in general. So many people have said so many things eloquently here. I would just like to go on record to say that I am in favor of reducing the cattle, reducing the burros and perhaps, even going further, establishing areas that are almost benchmarks, as it were, and as large areas as could be -- just large natural areas that could be used as benchmarks to see what is actually happening in the range area, that you could establish large areas where it would be kind of a measuring stick, as it were, so that you

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have some means of measuring what the impacts actually are, rather than just kind of eye-balling it.

It appears to me that the Impact Statement is overwhelmingly -- that the evidence is overwhelmingly in favor of reducing the populations and I'm certainly in favor of that. Lord knows, we need that. Erosion, as everyone knows, is terrible. I think that this is a step in the right direction and I wholeheartedly support what you are doing. That's all I have to say.

HEARING OFFICER SWAN: Thank you. Is Steve Johnson here?

MR. JOHNSON: My name is Steve Johnson. I'm the Southwest Rep of Defenders of Wildlife.

It states in the Environmental Impact Statement that there's very little trend data for wildlife and many of the interactions are little known and not understood. That's certainly true.

However, you can look at some species and gain some valuable inferences about probable conditions of other species. Of all the species of wildlife in the Hualapai-Aquarius that I can think of that demands very little to live its life -- I can think of nothing, no animal more undemanding than the desert tortoise. He doesn't ask very much. He sleeps over half the year -- hibernates. He needs



2 a little ephemeral vegetation when he comes out, so he can  
3 gain the energy to reproduce and that's about it.

4 Well, when the desert tortoise is in trouble -- and  
5 it is -- what about the rest of the wildlife, whose needs  
6 are far more demanding and whose lives are led far more  
7 intensely, to say the least?

8 As Southwest Rep for Defenders, I'm here to speak  
9 briefly for the remnants of wildlife that still survive,  
10 still manage to eke out an existence in an area devoted for  
11 decades -- perhaps, a hundred (100) years in this area --  
12 almost solely to the needs, real and imagined, of the rancher.  
13 A more lengthy written comment will soon be mailed to the  
14 State office.

15 BLM devotes nearly all of its land to grazing and  
16 the public has a right to ask that an activity that is ever  
17 present be so controlled that it allows other public values  
18 to prosper also -- not just that they survive, but prosper.

19 In my opinion, the proposed alternative does not  
20 do this adequately. The most glaring lack in the proposed  
21 alternative is the treatment of the riparian areas, as has  
22 been brought up here again and again.

23 Many references can be found throughout the Draft  
24 to tell of the importance of the riparian zone, but the  
25 proposed alternative does not reflect such awareness. It was

P-11

2 stated that the management techniques planned for the area  
3 will allow increase of herbaceous vegetation in these zones,  
4 but the all-important cottonwood, willow and ash trees will  
5 continue to deteriorate.

6 Elsewhere, the Draft states that without such woody  
7 plant cover, many species would cease to exist. Aravaipa  
8 Canyon up near Tucson, or north of Tucson, is a BLM primitive  
9 area and when Defenders of Wildlife entered into that area,  
10 purchasing the land that the Nature Conservancy had previously  
11 purchased at each end of the Aravaipa, you could see the  
12 "Primitive Area" sign. Walking up the creek, you could see  
13 that sign for about a third of a mile before you got there.  
14 That was when cattle were in the bottom of Aravaipa. Since  
15 we have taken over Aravaipa, those small areas, the State  
16 grazing leases that are utilized in the bottom of the canyon  
17 are no longer used for cattle. Cattle are excluded from the  
18 bottom now for about four (4) or five (5) years. I was in  
19 there about two (2) weeks ago and saw one (1) bull in the  
20 area, which I reported and presumably it's out now.

21 But anyway, you can't see that sign anymore. The  
22 sign is now hidden with cottonwoods about four (4") inches  
23 in diameter already. They were there, trying to come up,  
24 but the cattle wouldn't let them.

25 I recommend that the BLM write its Final

2 Environmental Impact Statement in such a way that all of  
3 the riparian habitat area be fenced off from both cattle and  
4 burros, if this is possible. The entire riparian area  
5 amounts to less than one (1%) percent of the area, but as  
6 the Draft repeatedly states, its importance goes far beyond  
7 that small percentage.

8 Since all of the Hualapai-Aquarius Planning Area  
9 is in an arid area, BLM needs to more adequately allow for  
10 this reality. In such an area, drought is not an emergency.  
11 It's a normal condition. I don't know how many times I've  
12 talked to a rancher who has pointed out his fenceline to me  
13 and for some reason, the range stopped right at the fenceline.  
14 There's a drought on his side, but on the other side, there's  
15 no drought.

16 Drought is always there and if you look at it --  
17 look at any native plant or animal, their body is a mirror  
18 of this reality they face every day of their lives. When  
19 you add a large, one thousand pound herbivore to such an area,  
20 something has to go, because there's nothing out there that  
21 is empty. There are no empty niches. You add an animal  
22 that needs eight hundred (800) pounds of air dried forage  
23 per month to an area that's already in bad shape, there  
24 isn't any way that you're not going to affect wildlife. And  
25 when conditions get dry, as they normally are -- they get

P-11

2 even drier -- the cow is fed supplementally. Then it does  
3 even more damage, because it stays out there -- he or she or  
4 it -- stays out there and eats when the plants are in their  
5 lowest ebb, taking the elaborate root systems, the drought-  
6 deciduous leaves, spines, growth-inhibitor coatings on the  
7 seeds do little good when such self-protective mechanisms  
8 are short-circuited by the presence of too many cattle.

9 In much of the area, in fact, any cattle may be  
10 too many. I think this is a fact that has to be faced if  
11 the public demands are to meet all the demands that we are  
12 placing on them now.

13 Accordingly, Defenders of Wildlife supports the  
14 wildlife enhancement alternative, since it comes closest, we  
15 believe, to a politically realistic solution. I don't think  
16 anytime soon we'll see the alternative of no cattle grazing  
17 adopted. Given the reality of a hundred (100) years of  
18 grazing abuse, confining livestock use to forty (40%) percent  
19 of key species is not asking too much. It is time -- indeed,  
20 past time, that the western rancher on such arid lands has  
21 an influence that is proportionate to his economic contri-  
22 bution to society. If his lifestyle can survive when all  
23 other public values are retained on the land, fine. If it  
24 cannot, so be it.

25 Since FLPMA was passed in 1976, BLM has gone far



1 toward finally managing public lands for the public and  
2 getting out of the lifestyle and maintenance business. The  
3 Hualapai-Aquarius Draft is the most lucid and frank BLM  
4 grazing document that I have yet read and I compliment the  
5 people who prepared it.

6 There is much about which to be encouraged, but  
7 yet, much remains to be done. Thank you.

8 HEARING OFFICER SWAN: Thank you for your comments.  
9 Is Bob Ohmart here?

10 MR. OHMART: Thank you, Mr. Crisp, Mr. Barker,  
11 Mr. Taylor, Mr. Swan. I appreciate the opportunity to speak  
12 to you tonight and would like to comment on the EIS, as  
13 others have. I find the EIS relatively well-written. I  
14 applaud the efforts of BLM to reduce the burro population  
15 by eighty-four (84%) percent. I, myself, would rather see  
16 it over a hundred (100%) percent removal and areas established  
17 for burro appreciation which are accessible by the public,  
18 such as Alamo Lake and areas such as this. I think the burro  
19 is devastating to our desert environment and certainly  
20 destroying many of the wildlife values that we appreciate  
21 out there.

22 The EIS is remiss in addressing riparian habitats  
23 and the value of riparian habitats. Gentlemen, I would  
24 submit to you that less than one (1%) percent of the total  
25

1 vegetation in desert environments is composed of riparian  
2 habitats. Yet, greater than sixty (60%) percent of the  
3 wildlife in these arid habitats are dependent and obligate  
4 to riparian habitats themselves. Another fifteen (15%)  
5 percent or more are facultative to riparian habitats. So of  
6 the hundred (100%) of the wildlife out there, eighty (80%)  
7 plus are dependent on riparian habitats and they represent  
8 less than one (1%) of the total arid habitat. So we're  
9 talking about a habitat that is invaluable. In fact, it  
10 itself should probably should be considered endangered.  
11 Domestic livestock grazing has reduced, degraded and  
12 deteriorated this habitat to the point of where we no longer  
13 have regeneration of riparian species -- trees, shrubs and  
14 the like.

15 The EIS casually addresses revegetation. Gentlemen,  
16 we are in the process of revegetating areas on the Colorado  
17 River. It is expensive, far more expensive than you can  
18 believe. It is much cheaper to let Mother Nature do it  
19 herself and I assure you that if you get into revegetation  
20 and it is a successful operation, it will cost you far more  
21 than Mother Nature will impose herself, simply by removing  
22 a few domestic livestock.

23 The basic problem is that domestic livestock  
24 concentrate in the riparian habitat because it provides shade  
25

1 and water and forage for about nine (9) months of the year.  
2 Consequently, the riparian vegetation is decimated during  
3 this nine (9) months period, as cattle concentrate in the  
4 areas. We must -- and I urge you -- protect these valuable  
5 habitats. Otherwise, I fear you will be back at point zero.

6 The Final EIS must address this problem. BLM  
7 certainly has the data. I'm fully aware of the people who  
8 have collected the data. I'm fully aware of the value and  
9 quantity and competence of those data. They simply are not  
10 addressed in the EIS -- the Draft EIS.

11 Without relief from grazing pressure in these  
12 areas, we will continue to see degradation, as you candidly  
13 admit in the EIS. Also, without adequate protection of the  
14 watershed, we will see greater amounts of runoff during  
15 precipitation; we will see heavy soil erosion and we will  
16 see greater destruction to the remaining riparian habitat  
17 that still exists out there today.

18 Even small trees six (6') to eight (8') feet tall  
19 will be walked down by cattle and devoured by them. So we've  
20 got to have enough protection to allow the vegetation to  
21 get to a height to sustain itself and not be grazed back to  
22 oblivion.

23 Therefore, I plead with you: Do not overlook this  
24 invaluable resource. Address it and help protect it.  
25

P-12

1 Otherwise, I feel you will suffer from environmental wrath.  
2 In the Final EIS, address it and certainly, in the habitat  
3 management plans. Thank you very much.

4 HEARING OFFICER SWAN: Thank you. I have gone  
5 through the list of speakers who signed in. I would at this  
6 time like to ask if there is anyone in the audience who  
7 would like to give a statement or give a comment of any kind.  
8 Come on forward and state your name.

9 MR. KEN ROSENBERG: My name is Ken Rosenberg and  
10 I live in Tempe. I want to commend the BLM for a very  
11 objective and honest EIS. However, what bothers me most is  
12 that they honestly state that the -- probably the most unique  
13 and critical natural resource under their jurisdiction in  
14 this planning unit -- mainly, the riparian habitat -- is  
15 essentially written off in their recommended and proposed  
16 action.

17 Rather than reiterate what so many people have  
18 said here tonight concerning the value of riparian habitat,  
19 I just want to address the question again of the immediacy  
20 of protecting this habitat now. If we consider the choice  
21 we have of taking direct action to protect these riparian  
22 areas, or to continue to allow livestock grazing in these  
23 areas and then look ahead so many years down the road,  
24 assuming that we do not have all the knowledge necessary  
25



right now to make the proper decision, but we have to make one, if we allow for the protection of these areas and allow for the regeneration or restoration of these riparian habitats now, there is a very good chance somewhere down the line that these habitats will no longer be endangered and some sort of controlled livestock grazing at some level would be allowable in a much more healthy riparian habitat in the future.

However, if we decide right now not to protect these areas now and allow the continuation of grazing, so many years down the line we are not going to have that choice once again, if we realize we've made the wrong decision, because there won't be any riparian habitat once these trees die and there won't be the regeneration and the wildlife species that are dependent and the people who enjoy the use of these riparian areas will not have that choice and it will be solely an area devoted to cattle grazing at that time. Thank you.

HEARING OFFICER SWAN: Thank you. Is there anyone else in the audience who would like to make a statement at this time? Please state your name.

MR. ANDY LORENZY: My name is Andy Lorenzy and I'm a graduate student in zoology at ASU also. And I would like to go on record as supporting the majority of comments in

regards to BLM more directly assessing the impact to riparian areas.

On a more encouraging note, in the report itself on pages 125 and 126, the BLM mentions in Mitigation Measures alternative grazing systems which can be looked at in greater depth, these being rest rotation systems involving a longer rest for the riparian areas, possibly a deferred rotation system where, at a particular time of the year in a particular pasture containing a valuable riparian area may be removed from grazing at this time.

The Forest Service has done some work in terms of rest rotation and benefits to riparian areas along these lines. There's a number of people in the Tonto National Forest I've had personal contact with and there's been some encouraging results using these rest rotation systems. Clark Martin's study, which is acknowledged in here deals specifically with cattle as "wild animals", in quotations, and seeks to learn how these cows behave as an animal and in doing this, they find there is seasonal movements with cattle in their use of riparian areas. If this can more specifically be delineated, there may be a way in which we can, quote, "graze" the land and protect the riparian areas.

I think more attention to this integration with Forest Service personnel and possibly even the State Lands

Department may get some really desirable results. Thank you.

HEARING OFFICER SWAN: Thank you. Is there anybody else in the audience who would like to give a statement at this time?

(No response)

Do you want to give an additional comment at this time?

MR. JIM BECKER: If I might?

HEARING OFFICER SWAN: If you'll keep it short, sure.

MR. BECKER: Very short. In response to a question by Scott Terrill about wildlife values, you responded that it was very difficult to assign dollar values for inclusion in a benefit-cost statement.

However, he indicates that these values should be looked at, even though they're not subject to dollar values immediately.

The comments by Mr. Asplund, particularly, about the impact of erosion up in there brings to mind the fact that the cost of erosion have been rather considerably documented. The damage done in the highlands is something that we're all paying for now. Certainly, at Phoenix through the flood-drought cycle. And to permit continued erosion

anywhere would seem to be an objective that would not be consistent with appropriate management of public lands. Thank you.

HEARING OFFICER SWAN: Just for the record, your name is Jim Becker?

MR. BECKER: Jim Becker, yes.

HEARING OFFICER SWAN: Any other comments? If there are no additional comments, we will close the hearing. This is your last chance.

(No response)

All right, then, I am going to declare the hearing closed at this time. Thank you for your attendance.

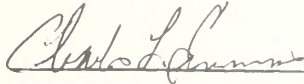
(Whereupon, the hearing in the above-entitled matter was closed at approximately 9:00 o'clock, p.m.)



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3  
4                   C E R T I F I C A T E  
5

6                   THIS IS TO CERTIFY THAT the foregoing proceedings  
7 were held as herein appears, before the Bureau of Land  
8 Management, U. S. Department of the Interior and

9                   THAT the foregoing pages 1 through 44 are a true  
10 and correct transcript of my stenographic materials taken  
11 at the time and place hereinbefore written.

12  
13 

14 Charles Emmons  
15 CHARLES EMMONS & ASSOCIATES  
16 3920 East Indian School Road  
17 Suite No. 6  
18 Phoenix, Arizona  
19 Official GSA Contract Reporters  
20  
21  
22  
23  
24  
25

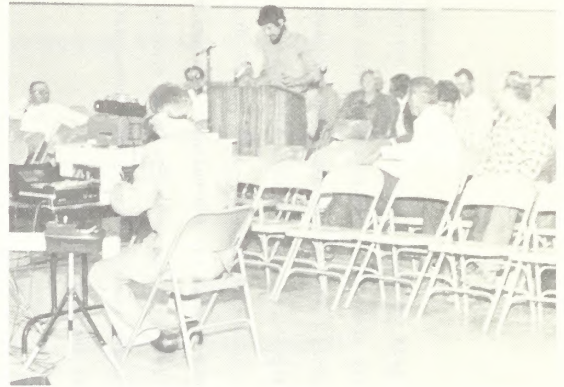


Photo by Todd Glasenapp

Dr. Carl Tomhoff of Prescott was the first to speak at the Kingman hearing. He voiced concern over the condition of riparian habitats impacted by grazing.



Photo by Todd Glasenapp

Stewart Anderson, rancher and chairman of the Phoenix District Multiple-Use Advisory Board, presents testimony at the Kingman hearing. He challenged some of the basic policies used in formulating BLM's rangeland management proposal.

- P-1 See General Response 2.
- P-2 Several items under the Measures for Resource Protection and Enhancement are designed specifically for riparian habitat protection. These are part of the proposed action and will be implemented as part of the rangeland management program. See General Response 2.
- P-3 The introductory paragraph to the Mitigating Measures section (page 125) states that the mitigating measures have not been selected but could be incorporated during decisionmaking. See General Response 2 for further explanation.
- P-4 BLM cannot afford to fence all of the springs and riparian areas in the EIS area. BLM projects must be cost-effective and will be directed at springs and riparian areas with the most conflicts or the best likelihood of improvement. BLM's policy is to protect springs and other waters for wildlife where such is feasible (see Measure 16, draft EIS, page 34).
- P-5 Fence specifications for wildlife protection are detailed in Items 13 and 14 on page 34 of the draft EIS.
- P-6 See General Response 2.
- P-7 Under the proposed grazing management program, accelerated soil erosion would not be completely controlled but is expected to decline to an acceptable level in 5-10 years. Reaching the natural geologic erosion rate may be possible for most of the EIS area but would likely require many years. As we increase protective ground cover and decrease runoff, soil productivity would increase and stabilize. BLM will monitor areas having significant erosion problems.
- P-8 ACEC proposals for Burro Creek and other drainages are referenced on page 57 of the draft EIS. Decisions on actual ACEC designation will be made during Step-3 of the management framework plan.
- P-9 The high significance of riparian habitats, particularly along Burro Creek, is documented on pages 54-57 of the draft EIS. The management framework plan for the Hualapai-Aquarius Planning Area may be reviewed to determine the extent to which riparian areas were considered in making resource management recommendations.
- P-10 See General Response 2.
- P-11 See General Response 2.
- P-12 The draft EIS does address the adverse impact of livestock concentrations in riparian areas (pages 54-57, 79, 81, and 82). General Response 2 identifies alternatives that may be selected in the decision to reduce or eliminate these impacts.



## WRITTEN COMMENTS

Written comments received on the draft EIS have been reproduced on the pages that follow. Specific comments that pertain to the adequacy of the draft EIS have been identified by number. BLM's responses to those comments follow each letter and are identified by corresponding numbers.

BLM expresses its thanks to those who took time to review the draft study and to submit comments on the analysis or the proposal.

The following agencies, organizations, and individuals submitted written comments:

Letter  
No.

---

- 1 U.S. Fish and Wildlife Service — Regional Director
- 2 Advisory Council on Historic Preservation
- 3 Byner Cattle Company
- 4 National Council of Public Land Users
- 5 Arizona Department of Health Services
- 6 Arizona State University
- 7 Water and Power Resources Service (U.S. Bureau of Reclamation)
- 8 Northern Arizona Audubon Society
- 9 Institute for Raptor Studies
- 10 U.S. Geological Survey
- 11 Wildlife Management Institute
- 12 Heritage Conservation and Recreation Service
- 13 Ed Kellis
- 14 The Desert Tortoise Council
- 15 University of Arizona
- 16 Four Corners Wilderness Workshop
- 17 Globe Corporation
- 18 Soil Conservation Service
- 19 Arizona Game and Fish Department
- 20 National Audubon Society
- 21 Maricopa Audubon Society
- 22 Defenders of Wildlife
- 23 Southwest Hawk Watch
- 24 Jack Wilson
- 25 Environmental Protection Agency
- 26 U.S. Fish and Wildlife Service — Area Office
- 27 Arizona State Parks
- 28 Tucson Audubon Society
- 29 Eva Patten
- 30 Susan Monroe
- 31 Arizona State Land Department
- 32 Arizona State Clearinghouse

1

6890

IN REPLY REFER TO:

ARIZONA STATE OFFICE	
BUL. LAND MANAGEMENT	
FEB 9 1981	
SEARCHED	INDEXED
SERIALIZED	FILED
FEB 9 1981	
FBI - PHOENIX	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE

POST OFFICE BOX 1306  
ALBUQUERQUE, NEW MEXICO 87103

February 3, 1981

MEMORANDUM

To: Arizona State Director, Bureau of Land Management, 2400 Valley Bank Center, Phoenix, Arizona 85073

From: Acting Assistant Regional Director, Region 2

Subject: Formal Section 7 Consultation on the "Hualapai-Aquarius Grazing ES"

This is in reply to your letter of December 23, 1980, requesting consultation on the "Hualapai-Aquarius Grazing ES", because the bald eagle (Haliaeetus leucocaphalus) and peregrine falcon (Falco peregrinus) occur within the proposed action area.

The "Hualapai-Aquarius Grazing ES" discusses five alternative grazing schemes which vary from no change in current grazing levels, through various reduced levels of grazing, to a no-grazing alternative.

The bald eagle is known to winter in low density within portions of the project area, while the peregrine falcon is a rare migrant through the area. Currently, the riparian habitat which is used by these species is in poor to fair condition. Alternatives protecting riparian habitat would have a positive, but minor, influence upon the listed populations of eagles and falcons.

The major factor limiting the peregrine falcon is lowered reproductive capacity caused by pesticides. Limiting factors for the bald eagle are pesticides and loss of nesting habitat. Wintering habitat for these species appears relatively abundant at this time.

Neither species is known to nest within the impact area. However, potential for nesting may occur if base populations expand. For these reasons, it is my biological opinion that implementation of any of the alternatives as discussed in "Hualapai-Aquarius Grazing ES" is not likely to jeopardize the continued existence of either the bald eagle or peregrine falcon. Critical habitat has not been designated for either of these species.

Date to C.F. \_\_\_\_\_  
Filed Date \_\_\_\_\_ Initials \_\_\_\_\_

A number of species considered as candidates for listing were mentioned in the draft environmental impact statement. These candidate species are bell's vireo (Vireo bellii), desert tortoise (Gopherus agassizii), Cowania subintegra, Coryphantha vivipara var. buoiflora, Sophora arizonica and Opuntia phaeacantha var. superbospina. The other plant species listed in your letter are no longer candidates for listing.

Candidate species are not a subject for formal consultation. However, to assist you in conservation efforts, the following recommendations are provided for your consideration:

Alternatives or modifications of alternatives protecting riparian habitat will benefit Bell's vireo, as well as the bald eagle and peregrine falcon.

Alternatives such as wildlife enhancement and elimination of grazing would protect the desert tortoise, Cowania subintegra, Coryphantha vivipara var. buoiflora and Opuntia phaeacantha var. superbospina. Another approach would be to reduce grazing in areas inhabited by these candidate species for any of the other alternatives in the draft environmental impact statement.

Further consultation is not required unless (1) new information reveals impacts not considered; (2) the project is modified in a manner not considered in this opinion; or (3) a new species is listed or critical habitat determined which may be affected by this project.

If any questions arise, please contact the Office of Endangered Species, (505) 766-3972 or FTS 474-3972.

*J. T. Dooly*

cc: Phoenix Area Office, Phoenix AZ (SE)  
Director, Arizona Game & Fish Dept., Attn: Chief, Wildlife Mgmt. Div., Phoenix, AZ  
FWS, Washington, D.C., (OES)



2

**Advisory Council On  
Historic Preservation**

1522 K Street, NW  
Washington, DC 20005

RECEIVED  
MAR 23 4 44 PM '81  
FIVE  
HUEB, Aiken Plaza South, Suite 616  
44 Union Boulevard  
Lakewood, CO 80228

Reply to:  
FIVE  
HUEB, Aiken Plaza South, Suite 616  
44 Union Boulevard  
Lakewood, CO 80228

March 20, 1981

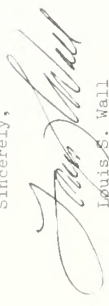
Mr. Clair M. Whitlock  
State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Dear Mr. Whitlock:

This is in response to your request of March 16, 1981, for comments on the draft environmental statement (DES) for the proposed Hualapai-Aquarius Grazing Management Program, Mohave and Yavapai Counties, Arizona. Pursuant to its responsibilities under Section 102(2)(c) of the National Environmental Policy Act of 1969, the Advisory Council on Historic Preservation has determined that this DES demonstrates compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. Sec. 470f, as amended, 90 Stat. 1320).

Should you have any questions, please contact Charles M. Niquette of the Council's Denver staff at telephone number (303) 234-4946, an FTS number.

Sincerely,



Louis S. Wall  
Chief, Western Division  
of Project Review

3

MUSICK, PEELER & GARRETT

ATTORNEYS AT LAW  
ONE WILSHIRE BOULEVARD  
LOS ANGELES, CALIFORNIA 90017  
TELEPHONE (213) 629-7600

CLYDE MUSICK  
(800) 368  
LEGISLATIVE COUNCIL  
12-26-1983

CABLE: PEELGAR  
TELEX 877481  
TELECOPIER  
624-1376

WRITER'S DIRECT DIAL NUMBER

213/629-7671

March 24, 1981

Bureau of Land Management  
Phoenix District Office  
2929 West Clarendon Avenue  
Phoenix, Arizona 85017

Re: Hualapai-Aquarius - Draft Grazing Environmental  
Impact Statement

Gentlemen:

This letter is in response to your communication asking for written statements concerning the Draft Grazing Environmental Impact Statement for the Hualapai-Aquarius Planning Area in Mohave and Yavapai Counties, Arizona.

We bring the following two inaccuracies to your attention:

1. Allotment No. 2116 - Byner Cattle Company: The table appearing in Appendix 2-4 "Allotment Acreage Summary" shows a total of 3,727 acres. The BLM Grazing Lease Statement (copy attached) shows 5,897 acres.
2. Allotment No. 0069 - Trout Creek: The map attached as Plate 1 to the Draft Grazing Environmental Impact Statement indicates this allotment is located in T18N R13W. Actually it is Section 16 of T18N R12W.

Very truly yours,

BYNER CATTLE COMPANY

By   
Gerald G. Kelly  
President

GGK:1sh  
Enclosure

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

REF 15  
RA 58  
MC R

360

Date due 03/01/81  
Total due \$ 1,358.28

FOR BLM USE ONLY

State . . . . . (1) AZ  
Office . . . . . (2) 025  
Grazing Record Number . . . (3) 2116  
Record Type . . . . . (4) W  
Schedule Number . . . . . (5) 1  
Billing Number . . . . . (6) 6130806  
Date . . . . . (7) 020381  
Type of Billing . . . . . (8) 1  
Amount Collected . . . . . (9)

BYNER CATTLE COMPANY  
KELLY GERALD G  
ONE WILSHIRE BLVD  
LOS ANGELES CA 90017

BUR OF LAND MANAGEMENT  
PHOENIX DISTRICT  
2929 W CLARENDON AVE  
PHOENIX AZ 85017

MAKE REMITTANCE PAYABLE TO: Bureau of Land Management. Please return the top portion of this billing notice with your payment. Be sure the payee address shows through the window of the enclosed return envelope.  
This billing notice shows the amount due in grazing fees for livestock grazing use extended to you. Your cancelled check is your receipt. Please retain the lower portion of this notice which shows livestock grazing use authorized upon timely payment of fees. A service charge of \$10 will be made for each application requiring the issuance of a replacement or supplemental billing notice.

LINE NO.	ALLOTMENT NAME	NUMBER	LIVESTOCK NO.	KIND	PERIOD		PL USE	AUMS	COST PER AUM	GRAZING FEE	
					BEGIN	END					
01	BYNER CATTLE CO	0116	49	C	03/01/81	02/23/82	100	A	588	2.31	1358.28
BILLING SUMMARY (AUMS)											
P R E F E R E N C E SCHEDULED USE DIFFERENCE O T H E R U S E											
ALLOT. TOTAL SUSP ACTIVE ACTIVE NONUSE NOTSCHED NONREN EXCHNG EPHNRL OTHER											
0116		588									
TERMS & CONDITIONS:											
5897 ACRES YAVAPAI COGEST CARRING CAP B HD/SEC/YR											

LETTER 3 ATTACHMENT

Billing Number: G130806

3-1 The correct Federal acreage within the Byner allotment is 3,927. Appendix 2-4 is changed accordingly. By letter of October 16, 1978, you were informed that 1,969 acres were removed from allotment status because of mining claims. The billing statement has yet to be corrected.

3-2 That portion of the allotment shown on Plate 1 is correct. Federal lands in the allotment lie outside of the planning area (T. 18 N., R. 12 W.) where land ownership and allotment boundaries are not depicted.

Under authority of the Act of June 28, 1934, as amended (43 U.S.C. 315 et. seq.), the Act of August 28, 1937 (43 U.S.C. 1181d), the Act of October 21, 1976, as amended (43 U.S.C. 1701 et. seq.), the Act of October 25, 1978 (43 U.S.C. 1901 et. seq.), you are hereby authorized grazing use on lands of the United States described above. Failure to pay grazing fees for a specified grazing authorization (permit or lease) may result in action toward suspension or cancellation. Grazing use of public lands without authorization is prohibited.



# 4

## National Council of Public Land Users

P. O. Box 811

Grand Junction, Colorado 81501

24 Mar 81

Paul Maxwell, President

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1180	

Herbert Snyder, Secretary

Mr. James Watt, Secretary  
US Department of Interior  
Washington, D.C. 20240

Dear Sir:

The Arizona Huatapai-Aquarius Draft Grazing Environmental Impact Statement has been reviewed. Under the Sec. Purpose & Need, Issues Identified, Pg. 10, it is stated: "Through the scoping process, BLM determined that impacts "to" the following resources would be negligible or nonexistent and that analysis would be dropped altogether - - 1. Climate".

The "scoping process" is not in the glossary. It probably went the way of the brains that substituted the word "to" for the word "from" in the above quotation.

The simplest minds understand that the relationship between precipitation, and solar and wind evaporation makes the difference between a natural desert environment and a non-desert environment. These factors must be taken into consideration in determining whether an environment is suitable or not suitable for domestic livestock grazing. They must be included in the impact statement for it to be worth having been written at all.

Otherwise, the only justification for the EIS is to propagandize the public into thinking that with enough government money the BLM will change the climate. This is not a new approach to wasting government money. The BLM and the domestic livestock graziers have been doing it for decades.

It is time to put a stop to it:

Yours truly  
*Herbert Snyder*  
Herbert Snyder, Secretary

Copr to: Clair M. Whitlock, State Director  
Jim Crisp, Team Leader  
Office of Budget & Management  
Natural Resources Defense Council

### RESPONSE - LETTER 4

- 4-1 The scoping process is detailed in Appendix 1-3. For clarification, a definition has been included in the Errata of the final EIS.
- 4-2 BLM recognizes the overriding significance of precipitation and other climatic factors in influencing rangeland conditions and management programs. The unit resource analyses for both planning units in the EIS area contain extensive information on climate, which was used in formulating the land use plan. A general summary was included on page 39 of the draft EIS to give the reader perspective on the physical setting. Following Council on Environmental Quality regulations, a more extensive treatment of climate was not found necessary to document the impacts of implementing the rangeland management proposal.

5



ARIZONA DEPARTMENT OF HEALTH SERVICES

Division of Environmental Health Services

April 1, 1981

BRUCE BARRITT, Governor  
JAMES E. SARN, M.D., M.P.H., Director

ARIZONA STATE OFFICE	
BUL. LAND MANAGEMENT	
SEARCHED	INDEXED
SERIALIZED	FILED
APR 1 1981	
PHOENIX, ARIZONA	

Mr. Clair M. Whitlock  
Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Dear Mr. Whitlock:

The staff of the Bureau of Water Quality Control have reviewed the draft grazing environmental impact statement for the Hualapai-Aquarius planning area and wish to express our support for the proposed project. As presented in your EIS, the activities in the grazing management program will significantly reduce non-point pollution runoff in the area and thereby improve the water quality of streams (e.g., the Bill Williams River) in the area.

Thank you for the opportunity of commenting on the draft statement.

Sincerely,

*Marc Bennett*

Marc Bennett, Planner II  
Planning and Program Development Unit  
Bureau of Water Quality Control

4/7/81

MB:bg

The Department of Health Services is An Equal Opportunity/Affirmative Action Employer. All qualified men and women, including the handicapped, are encouraged to participate.

State Health Building

1740 West Adams Street

Phoenix, Arizona 85007

6

ARIZONA STATE UNIVERSITY

CENTER FOR ENVIRONMENTAL STUDIES

April 21, 1981  
ARIZONA STATE OFFICE  
BUL. LAND MANAGEMENT

APR 21 1981

7:45 AM  
PHOENIX, ARIZONA

Mr. Clair Whitlock  
State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, AZ 85073

Dear Clair:

In reviewing the Hualapai-Aquarius Draft Grazing EIS, I was disappointed to see that only token efforts were made to protect and allow the reestablishment of a healthy riparian habitat along important stream bottoms (e.g., Burro Creek, Francis Creek, etc.). I urge you to establish riparian zones as priority areas and implement these in the allotment management plans.

I have no preferred system, but these critical wildlife areas must receive a period of rest so that riparian vegetation has an opportunity to grow high enough that it will not be eliminated by grazing. Cattle concentrate in the riparian zone during the hot, dry periods and consume or beat down all small vegetation. Consequently if any reestablishment of cottonwoods or willows is to occur, the areas must receive sufficient rest to allow this to come about.

Over 80% of the wildlife in arid areas is dependent on riparian zones for its survival. Therefore strong guidelines must be established and adhered to in order to allow new trees and shrubs to become established to replace old and dying communities. This has not occurred in the past and must be designed into future management plans to insure a healthy and productive riparian zone.

Sincerely yours,

*Bob*

Robert D. Ohmart, Ph.D.  
Associate Director

RDO/jjg

cc Mr. Robert Jantzen  
Dr. Robert Witzeman  
Ms. Mary Jane Shoun



7



United States Department of the Interior

WATER AND POWER RESOURCES SERVICE  
LOWER COLORADO REGIONAL OFFICE

P.O. BOX 427  
BOULDER CITY, NEVADA 89005

IN REPLY  
REFER TO:  
LC-155-A  
120.1

APR 28 1981

Memorandum

To: Arizona State Director, Bureau of Land Management,  
2400 Valley Bank Center, Phoenix, AZ 85073

From: Regional Director

Subject: Hualapai - Aquarius Draft Grazing Environmental Impact  
Statement (your undated letter)

We have reviewed the subject draft and find no impact on Water and Power Resources Service activities. The document appears adequate for the purpose intended, and we noted no deficiencies or errors significant enough to comment on.

*Roy L. Spear*

ARIZONA STATE DIRECTOR BUREAU OF LAND MANAGEMENT	
APR 27 1981	
SEARCHED	INDEXED
SERIALIZED	FILED
FILED	FILED
RESOURCES	RESOURCES
MANAGEMENT	MANAGEMENT
PLANNING CENTER	PLANNING CENTER
CF	CF
SEE ME	ACTION
	INFO

8



NORTHERN ARIZONA AUDUBON SOCIETY

SEDONA ARIZONA 86336  
Box 1496

BLM  
April 27 1981  
120.1

Bureau of Land Management  
2929 West Clarendon Ave.  
Phoenix, Arizona 85017

Re: Hualapai - Aquarius Draft Environmental  
Impact Statement

DATE	FILED	INDEXED
APR 27 1981		
SEARCHED	SERIALIZED	FILED
RESOURCES	MANAGEMENT	PLANNING CENTER
CF	CF	CF

Dear sirs,

As a member of the Northern Arizona Audubon Society, concerned about the long-range improvement of these public lands' capacity to support wildlife as well as livestock, I endorse the Wild Life Enhancement Alternative and the Measures for Resource Protection and Enhancement.

I especially urge implementation of #17 and #19. Excluding grazing animals by means of fencing to provide for broadleaf tree reproduction in suitable riparian habitats along Burro and Francis Creeks. 4 to 5 year old seedlings of cottonwoods or other broad-leaved trees to be planted in these areas. Fencing to be removed once seedlings are no longer subject to grazing damage.

I have seen the effect of unrestricted grazing under old cottonwoods. Seedlings, providing for the preservation of such habitat, have no chance unless protected by temporary fencing.

Sincerely,

*Will Osborn*  
Will Osborn

8-1

RESPONSE - LETTER 8

8-1 All Measures for Resource Protection and Enhancement will be implemented as explained in the draft EIS. See General Response 2.

9

# INSTITUTE FOR RAPTOR STUDIES

Box 4420, OM Star Rt.  
Oracle, AZ 85623  
26 April 1981

ARIZONA STATE	FILE
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Clair H. Whitlock  
State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, AZ 85073


Dear Mr. Whitlock:

I am concerned that your draft EIS on the Hualapai-Aquarius grazing area contains blatant violations of federal laws, laws which you have the mandate to follow and enforce. Your projected abandonment of riparian zone wildlife communities is a gross violation of the multiple use concept supposedly operative within the BLM.

You need be assured that it is quite practical to both provide for moderate grazing levels and wildlife habitat. Riparian communities can be encouraged by either deferred grazing practices or by fencing enclosures to allow for deciduous forest regeneration. You must already be aware that the areas of "critical wildlife concern" occupy less than 1% of your grazing district.

Please modify your plans for Burro Creek and all other perennial streams lest you signal to the wildlife conservation community that you have abandoned wildlife concerns and lest you thereby leave your agency vulnerable to civil suit for flagrant violations of NEPA and other environmental legislation. I urge you to rewrite your EIS and hereafter consider wildlife in the management of all riparian habitats.

9-1

Sincerely,  
  
David H. Ellis, Ph.D.  
Research Director

DHE:che  
cc: Senator Goldwater

RESPONSE - LETTER 9

9-1 See General Responses 1 and 2.





United States Department of the Interior

GEOLOGICAL SURVEY  
RESTON, VA 22092

ARIZONA STATE OFFICE BU. LAND MANAGEMENT	
MAY 4 '81	
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PLN. AFF.	ED.
RESOURCES	TECH. SER.
MGMT. SER.	PH. ING. DIV.
CF	
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	INFO

MAY 1 1981

Memorandum

To: State Director, Bureau of Land Management  
Phoenix, Arizona

From: Acting Assistant Director for Resource Programs

Subject: Review of draft environmental statement for grazing  
in Hualapai-Aquarius Planning Area, Mohave and Yavapai  
Counties, Arizona

We have reviewed the draft statement as requested in your notice.

Much of the precipitation in the planning area occurs during high-intensity storms of short duration from July through October. We suggest that the environmental statement should discuss both the beneficial and adverse effects of proposed action on peak streamflow and on the size and frequency of floods resulting from such storms (p. 75, 108, and 119).

*Eddie R. Wyatt*  
Eddie R. Wyatt

RESPONSE - LETTER 10

10-1 A general statement of the effects of the proposed action is already included on the pages referenced. We do not have data to allow a rigorous quantification of these impacts. We expect, however, that the effects would be so slight that such estimates or computations would be of little value.



Wildlife Management Institute

709 Wire Building, 1000 Vermont Ave., N.W., Washington, D.C. 20005 • 202 / 347-1774

DANIEL A. POOLE  
President  
L. R. LAHN  
Vice-President  
L. L. WILLIAMSON  
Secretary  
JACK S. PARKER  
Board Chairman

ARIZONA STATE OFFICE  
BU. LAND MANAGEMENT  
MAY 4 1981

April 28, 1981

Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Dear Sir:

The Wildlife Management Institute is pleased to comment on HUALAPAI-AQUARIUS, Draft Grazing Environmental Impact Statement.

We prefer alternative 4, Wildlife Enhancement to the proposed action. At the least, the proposed action should be modified to include the wildlife alternatives provisions for riparian protection.

We object to page 10, Environmental Assessment, 2nd paragraph. These provisions of selecting one or a combination of alternatives as the grazing program will negate the entire public participation portion of this NEPA process. Any program from maximum grazing to no grazing will be permitted without public review. The final decision should be close to the proposed action of the final EIS or a complete new public review must be made.

The other major deficiency is the lack of improvement in riparian systems. The EIS is forthright on this matter, especially on page 79, right column, 1st paragraph.

The additional mitigation measures on pages 125 and 126, including fencing and creation of small riparian pastures, should be adopted. Riparian zones are important to wildlife, especially so in Arizona. They are the key to good wildlife management. The livestock have had the possession of riparian zones since grazing began. It is past time to provide wildlife, while some riparian vegetation still exists.

On page 22 an estimate should be added of the manpower and dollars needed for monitoring.

These remarks have been coordinated with William B. Morse, the Institute's Western Representative.

Sincerely,

*Daniel A. Poole*

Daniel A. Poole  
President

DAP:lbb

12



United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE  
PACIFIC SOUTHWEST REGION  
SAN FRANCISCO, CALIFORNIA 94102  
450 Golden Gate Avenue Box 36062

Administrative routing stamp with fields for SEARCHED, INDEXED, SERIALIZED, FILED, and other tracking information.

RESPONSE - LETTER 11

- 11-1 See General Response 1. Council on Environmental Quality (CEQ) guidelines provide that the decision must lie within the range of alternatives considered. Combining elements of more than one alternative would hardly preclude public participation in the NEPA process, but would foster action that would most completely respond to the needs of rangeland resources and issues raised during the analysis. Such combination is consistent with CEQ regulations (40 CFR 1500.1(c)). Additional public review will also be made possible through the distribution of the rangeland program summary and later updates and during the preparation of site-specific activity plans.
- 11-2 Workmonths and dollars for monitoring have been included in the estimate on page 24. For 1981, one workmonth is the equivalent of approximately \$2,100.

IN REPLY REFER TO:  
2200  
DES-81/11

2 9 APP 1981

Memorandum

To: Arizona State Director, Bureau of Land Management, Phoenix, Arizona

From: Regional Director, Pacific Southwest Region

Subject: Review of draft environmental statement for the proposed grazing management program for the Hualapai-Aquarius Planning Area, Mohave and Havapai Counties, Arizona

We have reviewed the subject document and offer the following comments.

National Natural Landmarks Program

A number of potential National Natural Landmarks are located within the subject planning area. Banded Canyon, Bigelow Bear-Grass, Burro Creek and Burro Creek Crossing, Kaiser Spring Canyon, and Trout Creek have all been identified as potential National Natural Landmarks in the Mojave-Sonoran Biotic and Geologic Natural Region Studies. Copies of the Natural Region Studies are enclosed to provide information that may be useful in the determination of grazing allotments and future planning efforts.

12-1

Efforts to minimize harm to these nationally significant sites, in the project area, are strongly encouraged.

Arizona Natural Heritage Program

Examination of the distribution list (page iv) indicates that the Arizona Natural Heritage Program was not provided the opportunity to review and comment on the subject document. Responsible for providing information about critical plant and animal species, unique landscape features, and diversity of natural communities, the Arizona Natural Heritage Program is preparing a systematic inventory of the state's most sensitive species.

12-2



RECEIVED  
MAY 7 5 57 AM '81  
BUREAU, ARIZONA

Comments: Ed Kellis  
Box 243  
Bagdad, Arizona 86321

Regarding: Hualapai-Aquarius Draft Grazing Inviromental Impact Statement

Date: April 30, 1981

General

I do not understand why anyone should be asked to comment on the above referenced book. Past experience proves that it will not do any good. Nothing will be changed. Of course, most if not all comments will be printed in the back of the final statement along with the name of the person who took the time and dared differ with a bureaucratic view point. However the chance of anything being changed is about as slim as the life of a snowball in hell.

Example: In 1977, the BLM proposed new grazing rules. The new rules prohibited the rancher to salt or feed his cattle. Many comments and protests were sent in regarding this. A few months the BLM published their final rules. They acknowledged that the placing of salt was a tool of management and this was removed from the restrictions. Now this has been changed again. This rule has been "sneaked" back in. Therefore all protests and comments were a waste of time.

Even though the book is biased and slanted it is well written, well organized and complete with pictures, charts, maps, etc. No one will ever know what it actually cost. The acknowledged and published costs will be tremendously high. However if hidden and unknown costs were added for a final total, I am sure "heart attacks" would be common among people concerned with bureaucratic spending. The book definitely proves that given enough time, money, resources, labor, etc. that almost anything can be proven. By the same token given the same resources it could be proved that the book is not worth the paper it is written on.

It appears to me that in the past national election all elected officials received a clear mandate from the people that this policy of vast expenditures with all the included "monkey business" and harassments must be brought to a halt.

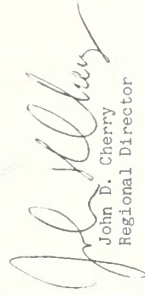
I think that the book being published at this time is planned to discourage some comments. The persons that are directly affected by this are the cattle ranchers, the grazing permittees in this Hualapai-Aquarius district. Yet it is sent out when it is almost impossible for them to study it and make comment.

I believe all ranchers in this district gather and ship cattle during the latter part of May. I think my days during the last of March, April and May are pretty typical of all in this area. I usually get up at 3:00 a. m.

The Arizona Natural Heritage Program may be able to provide valuable assistance in the development of the final Grazing Management Plan. A copy of the DEIS should be sent to the address listed below:

Mr. Terry Johnson, Program Coordinator  
Arizona Natural Heritage Program  
30 North Tucson Boulevard  
Tucson, Arizona 85716

Thank you for the opportunity to review this document.



John D. Cherry  
Regional Director

cc: Regional Environmental Officer  
U. S. Department of the Interior  
Pacific Southwest Region  
San Francisco, California

Division of Environmental & Compliance Review  
HCRS, WASO, W750

RESPONSE - LETTER 12

12-1 All relevant information in the Mojave-Sonoran Biotic and Geologic Natural Region studies will be considered in making land use planning decisions and in implementing the grazing management program for the area.

12-2 A copy of the draft EIS was sent to the Natural Heritage Program through the Arizona State Clearinghouse (see Comment 32). A copy was also mailed directly to the Natural Heritage Program upon receipt of your letter.

to begin my day. Many times I finish after dark that night. During these 60 or 70 days I do not really have the time to read this book much less study and comment. It appears to me that the publication date and closing date for comments was planned with this in mind.

I only think of 4 basic industries in the world today - agriculture, mining, commercial fishing and commercial trapping. All other industries are a service to and receive their prosperity directly or indirectly from these basic 4. These 4 must be kept in a health condition. When they fail, in the words of Bryan "grass will grow in the streets." All services will fail. The final end is destruction and starvation. In this EIS statement, economic welfare to the counties and state are stated and compared as thus: Ranching income and economic contributions to the county and state is going to decrease but this will be made up to the public by additional government contracting, additional government employees, recreation, etc. Anyone with a third grade understanding of economics knows that this is like comparing apples to bananas. When basic industry is killed, service industry will not and cannot provide economic stability other than for a very temporary time.

As mentioned previously time does not permit me to comment to any extent and on any individual allotment except those that directly concern my family. They are the Kellis and Bagdad Allotments. With the help of our children and a few friends my wife, Betty Jo, and I operate the Kellis Ranch. I work full time for the ranch. She works for Cyprus Bagdad Copper Company in addition to the ranch work. On rare instances I employ a school boy for a day or two at a time. All other labor is provided by my family or me. These 2 allotments are kept separate. With proper management, good conservation, they can, will and should never run less cows than they now carry.

page 48. "Erosion in these areas is aggravated by heavy grazing pressure from livestock, wild burros, and wildlife....." Let us call a spade a spade. Livestock caused erosion is mostly trails. Now anyone with any experience knows that a few jackasses make more and deeper trails than many, many cattle. Yet as an example of bias in the book, live-stock is listed before jackasses.

page 50. "Populations have been declining since the late 1960s." This is referring to deer. Now this statement is very definitely false on the Kellis and Bagdad allotments. I know, for example, on the Bagdad allotment more deer were killed by hunters last fall (1980) than in any year for the last 35 years.

page 53. "Most of the waters in the EIS area are in poor condition for aquatic wildlife." Burro Creek runs through the Bagdad allotment. From 35 years experience on Burro Creek I can not see any difference in the fish.

13-4 page 55. "Old and decadent reparian trees are not being replaced by young ones." As per the book livestock is causing this. This is ridiculous. Weather conditions (floods and droughts) the last few years have caused most of this. Before you blame me and my cattle I think you should take this up with the Lord.

13-5 page 60. table showing cattle figures for 3 different size ranches. Had the person compiling the figures used common sense the variances would have pointed out to him that they were impossible. Just an example of errors.

13-6 page 84. "Intensively managed grazing would require livestock..... as livestock adapt to the new systems, however, their performance would improve." This is not a proven fact in the type of country found in this district and on my allotments. In some areas this intensive grazing (rest, rotation, Savory Plan, etc.) I believe works well. It might work here but that is far from proven. However for a bureaucratic department of the federal government to print something like this as a proven fact is nothing short of abuse of power. This is nothing but a theory in the back of someones mind that he would like to prove at my expense and well being.

13-7 page 87. Ranch budgets. "ranchers .....would be financially better off under the proposed action than under present management. ranchers .....would be financially better off under present management than under the proposed action." This is nothing but "big brother" "hot air" and has no place in our American life.

13-8 page 90. "Maintaining the same stocking rates presently used would de-grade vegetation in the EIS area....." All that can honestly be said for this paragraph is that it is somewhere between a "dam lie" and an unproven statement. Much could be written about this. About 2 years ago a meeting was called in Tucson by the Secretary of Agriculture and Interior. Several hundred attended - a few ranchers, many from the BLM, college professors and many other learned people. It seemed to be the majority opinion among the learned experts that western ranges were better now than 75 years ago and very definitely better than 20 years ago. For verification of this see that report. I have been very close to my allotments for the past 35 years. I know this to be true regarding them.

13-9 Kellis Allotment - EIS statement says that this allotment has 1,467 acres of federal land. As late as February, 1981, I was invoiced by the BLM and I paid on the basis of 1,744.52 acres. This has been pointed out before. If the 1,467 is correct, then I should have a refund of grazing fees for the last 20 years.

13-10 Bagdad Allotment - EIS shows uncontrolled acres to be 52. I know of only 40. This does not amount to anything other than it demonstrates errors.



13-11 Another error - I am told that all forage requirements are based on a 1,000 pound cow. I do not have 1,000 pound cows. Mine will average (like all others in this EIS area) about 750 or 800 pounds. This would mean a 20 to 25% error

In March, 1980, I commented to the office of the BLM in Kingman about the contents of this proposed EIS statement. Those comments still apply. I am making them a part of this.

COMMENTS OF EDGAR KELLS REGARDING LETTER OF ROGER TAYLOR  
MARCH 19, 1980

1. Uncontrolled lands:

13-12 An error exists here. There is only 1 piece of 40 acres of uncontrolled lands in this allotment. A letter is in BLM files reflecting this.

2. Classification of lands:

13-13 Some 2,265 acres are classified unsuitable for grazing. Yes, there are a few places that cattle and deer do not go. I feel that this figure is too high.

3. Methods of arriving at AUMs:

13-14 In conducting a forage inventory like has been conducted the last 2 years on this allotment, one must recognize that the chance for errors are great. In my opinion, the chances for errors are greater than the chances for accuracy.

4. Some Bagdad Allotment History:

We acquired the Bagdad Allotment in 1973. Our wide knowledge of this allotment, however, goes back some 35 years. Previous to 1973, there was very little use here by livestock for about 25 years or more. Since 1973, we have had approximately 200 cattle, year long on it. Supplement feed has not been used. During the last 7 years, we have constructed the following improvements which directly affect grazing conditions:

- a. Constructed 5 earth tanks.
- b. Drilled 2 wells, installing windmills, storage tanks, drinkers, etc.
- c. Acquired 1 mining claim (patented, 20 acres) which has excellent watering facilities (windmill, storage tank, drinker)
- d. Installed 4 drinkers on Wikicup pipe line. Note - facilities for small animal watering was provided on each of these.
- e. Constructed 3 water drops at strategic locations in order that water may be hauled when needed.

We firmly believe (and will never agree otherwise) that this allotment is in better shape that when we took it 7 years ago. Sure it can still be improved more, however reduced stocking is not the way.

5. A field trip was conducted by the BLM in the fall of 1978 to acquaint people with their methods of range inventory. The site selected on this allotment was about 300 or 400 yards from water. The range area was classed excellent by BLM range men. Jack Morris, BLM, remarked at the close of the field day. "I would have to agree with Jack Wilson (rancher) that this area has been undergrazed."

Elmo Roundy, BLM, then remarked in words to this effect: There is no way that I can say for sure now, and I should not even say this. However from my observations of this allotment, I would say that a good possibility exists that AUM's should be increased. Elmo Roundy has been on this allotment a number of different times on horseback as well as on foot and in vehicles.

After the BLM inventory was completed in 1979, Kelly Grissom made a trip to our home to inform us as to his estimation of range conditions based on his observation. He said most of the allotment was in good and excellent condition. Some areas near Burro Creek were only fair.

6. Conclusion:

We have ran cattle on this allotment for 7 years. My folks lived

13-15  
(cont.)

at the confluence of Burro and Boulder Creeks for 17 years (1945-1962). We have hunted, scouted, rode, walked this allotment for 35 years. During this time we have seen wildlife increase. Deer population is about the same. Quail are much more numerous. Varmint animals are more. Burros are definitely on the increase. Human activity (rockhounding, hunting, fishing, picnicing, camping, 4 wheeling, etc.) is many times greater. In view of all these facts of which we are personally acquainted with, any range condition survey, forage inventory, etc. that even suggests a decrease in stocking rate is in error.

Respectfully Submitted,

*Edgar Kellis*

Edgar Kellis  
Box 243  
Bagdad, Arizona 86321  
March 22, 1980

13-16

About the same time that the BLM took their forage inventory, the Arizona State Land Department took an inventory on the Bagdad Allotment. The results of these two surveys were not close. Yet as far as I know nothing has been done to resolve this difference.

Proposed cuts in grazing numbers for the Kellis and Bagdad allotments are large. They mean much to us. The BLM proposes to cut the jackass numbers to 10. This is a big cut in grazing requirements even if the cattle were to remain the same.

THE PROOF OF THE PUDDING IS IN THE EATING. After being in the cow business all of my life, I do not believe that I have ever seen conditions any worse than they have been during the past winter (1980-1981). When weather began to cool last fall our cattle were not in good shape. The Bagdad allotment has not had any summer rains for some 9 or 10 years. We did not experience any winter rains this winter. A small amount of rain came late this spring. Nevertheless our cattle finished the winter in good shape. Not one pound of supplement feed was fed these cattle on the Bagdad allotment. Now this is definite proof that this allotment is undergrazed. I mentioned this to the BLM last winter, but no one bothered to check. If the forage inventory referred to in this EIS book is correct on our allotments, which indicated that too many cattle were on them, then with no supplement feed this last winter, cattle would have died like flies. This was not the case. THE PROOF OF THE PUDDING IS IN THE EATING.

I now apologize for the length of this. However when you attempt to affect my personal life, my family life, my business, my manner and way of making a living, then I have much to say.

Respectfully Submitted,

*Edgar Kellis*

Edgar Kellis  
Box 243  
Bagdad, Arizona 86321

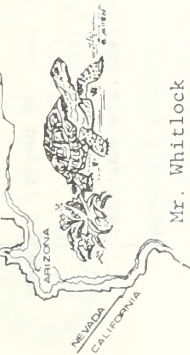


- 13-1 The order of listing in the narrative is not intended to convey ranking by degree of impact.
- 13-2 This statement refers to the EIS area as a whole, not to any one allotment.
- 13-3 BLM has not attempted to predict trend over time for aquatic habitat in the EIS area. Such information does not exist. The statement merely identifies the present condition.
- 13-4 Cottonwood and willow trees are flood-adapted. These trees produce millions of seeds each year from which thousands may germinate with significant spring floods. The floods are required for the seedlings to establish.
- 13-7 The draft EIS is clear in noting that the first statement applies to the typical small ranch, whereas the latter statement applies to the typical medium-size ranch.
- 13-5 Figures shown in the table reflect ranch budget data submitted by EIS-area ranchers in December 1979. The figures represent averages based on typical ranch size and may not reflect the performance on any one ranch.
- 13-8 The rangeland inventory shows that demand for forage in the EIS area from authorized livestock and existing big game and wild burros exceeds supply when suitability criteria are applied. Thus, continued use at present levels by livestock, wildlife, and burros will inevitably deteriorate some rangelands. This problem is often aggravated when competition for feed is concentrated in preferred areas or during key times of the year. Numerous studies referenced in the draft EIS have shown that continuous overstocking leads to abuse of the better and more accessible range sites, thus degrading the vegetation in these important areas.
- 13-9 The Federal acreage in Appendix 2-4 is changed accordingly.
- 13-6 The relationship between (1) grazing systems that allow for proper stocking and periods of plant rest at critical times and (2) improved livestock performance has been well established in the range literature (Arizona Inter-Agency Range Committee, 1972). BLM's Arizona Strip District has conducted studies on livestock performance

- 13-10 The Bagdad allotment has 60.661 acres of uncontrolled private land, including a 20.661-acre patented mining claim in NENW1/4, Sec. 27, T. 14, R. 10 in addition to the 40 acres in Sec. 8 noted by Mr. Kellis. The final EIS has been corrected.
- 13-11 Historically, an animal unit is considered to be 1,000 pounds of live weight or its equivalent, generally considered to be a cow and her calf. The Society for Range Management, A Glossary of Terms Used In Range Management (Range Term Glossary Committee, 1974), defines an animal unit as "...one mature (1,000 pound) cow or equivalent based upon average consumption of 26 pounds dry weight matter per day." At a rate of 26 pounds of forage (dry weight) an animal unit will consume 780 pounds of forage per month. This amount, however, does not include waste or natural disappearance of forage. Although desert cattle are generally lighter than cattle in other regions, selecting a forage requirement for a light beef animal would only perpetuate the current range condition and encourage poor animal performance.
- 13-12 See to Response 13-10.
- 13-13 See page 129 of the draft EIS for criteria used in determining range suitability.
- 13-14 See General Response 4.
- 13-15 Proposed stocking rates will be reviewed during the consultation period before BLM issues individual decisions for each allotment. See General Response 3 for details of that process.
- 13-16 BLM and the Arizona State Land Department have a cooperative agreement to arrive at a mutual initial stocking rate for State land. BLM uses different interpretations, which include proper use factors for different forage plants and range suitability criteria that the State Land Department does not use. Moreover, the State Land Department does not allocate forage to big game and wild burros on State land. Differences in the forage survey results will be worked out in consultation with the range user, the State Land Department, and other interested parties.

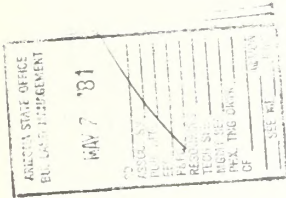


THE **14** DESERT TORTOISE COUNCIL



May 5, 1981

Mr. Whitlock  
 Arizona State Director  
 Bureau of Land Management  
 2400 Valley Bank Center  
 Phoenix, Arizona 85073



Dear Mr. Whitlock:

The Desert Tortoise Council is pleased to comment on this Draft Environmental Impact Statement for the Hualapai/Aquarius EIS area.

The Council hopes the comments it provides will be used to enhance the quality of the Final Statement and will be used to upgrade the alternatives, especially the Proposed Action.

The Council further expects BLM will choose an alternative for action that will take into account the special needs of the desert tortoise, a sensitive animal whose populations are diminishing throughout the Southwest, including your State.

Sincerely,

David W. Stevens  
 Cochairman

Comments on Hualapai-Aquarius Draft Grazing Environmental Impact Statement.

Congratulations on a relatively short, concise impact statement. Although the desert tortoise is considered in this impact statement, recognized as threatened by the Arizona Game and Fish Department, and acknowledged as under status review for federal listing by the U.S. Fish and Wildlife Service, the only alternatives that would explicitly benefit the desert tortoise are Wildlife Enhancement and Elimination of livestock alternatives.

Specific Comments:

Page 29. The areas in table 2-10 represent four isolated populations that should be protected for benefit of desert tortoises (Fig 2-2). Surely BLM could incorporate this kind of protection or resting these areas (from livestock use) from March 1 through June 30 each year to assure BLMs commitment to manage habitat for endangered, threatened, and sensitive species (including the desert tortoise).

Page 34 pt. 18. The phrasing "To the extent possible" is in no way a BLM commitment to manage any habitat to the benefit of the desert tortoise. Such "weasel words" have been used in the past to cover BLMs inaction. What kinds of specific activities in which grazing allotments will be used to increase desert tortoise forage and reduce (or eliminate) tortoise-livestock competition? The wording in pt.18 is entirely inadequate as a descriptor of "Measures For Resource Protection and Enhancement."

14-1

Page 54, paragraph 4. This section adequately describes the plight of the desert tortoise in Hualapai-Aquarius. Unfortunately BLMs Proposed Action alternative would do nothing to mend the wounds done to desert tortoise habitat by providing sufficient ephemeral forage( re page 78, para 7 and page 80 para 6&7). Page 94, para 4. The Council acknowledges the need for action in the Hualapai/Aquarius because of the many impacts to wildlife and habitat at this time.

Page 111, para6 and Page 112, para 14. The Desert Tortoise Council recommends this alternative, Wildlife Enhancement, as the course of action to take in the Hualapai/Aquarius, since we realize that balanced, multiple-use land management is BLMs mandated policy, and Elimination of Livestock would not be realistic or cost-effective in all areas.

Page 121, para 12. This alternative would be the most beneficial alternative to the desert tortoise populations throughout the Hualapai/Aquarius, ensuring that with Elimination of Livestock the desert tortoise would not undergo any serious forage competition.

Of added concern is the lack of a positive, specific commitment by BLM to protect and reestablish the native riparian habitat in the Proposed Action.

Page 73, paragraph 2 and Page 79, paragraph 9. These two sections analyze the impact of the Proposed action on vegetation and wildlife habitat of riparian areas. The Proposed Action as stated in Chapter 2 would do nothing in any specific areas to preserve or regenerate riparian habitat. This statement should affirm BLMs commitment to improve riparian habitat.

What specific measures and in which specific allotments will BLM improve riparian habitat?

14-2

Because the BLM has not seen fit to provide for the needs of the desert tortoise in the Proposed action, the Desert Tortoise Council cannot support the Proposed Action.

The Desert Tortoise Council recommends that BLM select the Wildlife Enhancement Alternative as the program of action for the Hualapai/Aquarius EIS area.

Thank you for the opportunity to comment on this program that deeply concerns us.

RESPONSE - LETTER 14

14-1 Specific actions by allotment will not be known until activity plans are written for grazing, burros, and habitat management. This measure provides general guidelines for desert tortoise protection, which will apply to the preparation of those activity plans and to construction of rangeland developments. The wording of this measure is not intended to provide BLM with a convenient means of avoiding its responsibility for sound resource management.

14-2 See General Response 2. Measures 17, 19, and 21 (draft EIS, page 34) are part of the proposed action. Those measures are intended to improve riparian habitat. Specific measures and areas to be improved will be determined in activity plans for livestock grazing, wild burros, and wildlife habitat.





15

THE UNIVERSITY OF ARIZONA

TUCSON, ARIZONA 85721

COLLEGE OF AGRICULTURE

SCHOOL OF RENEWABLE NATURAL RESOURCES  
33 BIOLOGICAL SCIENCES EAST BUILDING

May 6, 1981

Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, AZ 85073

ARIZONA STATE OFFICE BUREAU OF LAND MANAGEMENT	
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RE: Hualapai-Aquarius Draft Grazing Environmental Impact Statement

Dear Sir:

The University of Arizona Range Research Task Force of the School of Renewable Natural Resources has reviewed the Hualapai-Aquarius Draft Grazing Environmental Impact Statement and offers the following comments. In addition, attached to the end of these comments is the RRTF position statement concerning the use of the modified Soil-Vegetation Inventory Method and an evaluation of the variables involved in the linear programming model.

We hope that our comments are taken in the constructive spirit in which they are offered. Our intention is not to degrade this monumental undertaking of the BLM. Rather, our intention is to point out areas in the analyses process where improvements can be made for the betterment of range management. In that vein, the RRTF would be pleased to confer with the BLM on development of the final draft.

Due to the large number of specific comments being made, the order in no way reflects the degree of importance being placed on that issue. As each issue is commented on, the page number, column and paragraph will be cited (10-1-5 means page 10, column 1, paragraph 5). The comments will focus on three main areas--technical accuracy, consistency in logic, and technical questions unanswered in the text. In addition, several policies are questioned as to their appropriateness.

1. It was stated that lower "initial" stocking rates on public lands would increase grazing pressure on nearby state and private lands (3-2-5, 83-2-4).

- A. Will there be a net benefit to the total environment if this assumption is true? In other words, if the proposed action decreases adverse environmental impacts on BLM lands, has anything been gained?
- B. A specific example can be found on 75-2-5 when water quality is discussed. It is assumed that water quality will increase from the proposed action, but if 3-2-5 and 83-2-4 are correct, will the total pollutants found at some point downstream change?

- 2. The use of the term "initial stocking rate" is not well defined in the EIS and can lead to confusion. The term "initial" implies that this action is not now occurring, whereas in reality grazing domestic animals has been occurring for many years.
- 3. The University of Arizona Division of Range Resources has advocated utilization, rather than forage production studies, to adjust livestock numbers. The utilization adjustment recognizes that there has been historical use of the area by grazing livestock. Thus, this stock and monitor procedure seems suited to the existing situation.  
If both methods were 100 percent reliable, the end product (stocking rate) would be the same. However, since this degree of reliability is not normally the case for natural resource sampling, it would be more reasonable to recognize the existing situation and work from there.
- 4. It was stated that lower stocking rates would result in decreases in the percent of culled cows (3-2-4). Can it be documented that cows under this situation will live longer so that fewer must be culled to maintain the breeding herd?
- 5. It was stated that forage will be allocated to existing numbers of big game and desired numbers of burros before allocating to cattle (13-3-1). This statement and the cover illustration essentially show the grazing animal priorities used throughout the EIS.  
A. The justification for these priorities was not adequately addressed in the EIS.  
B. It was stated that if burro populations have not been reduced following the grazing decision, "initial" livestock allocations will be reduced until such time as the burros are removed (34-2-9). It was also stated in an alternative eliminated from study that livestock-big game dietary overlap is minimal and that reductions in burro numbers will only result in a minimal increase livestock numbers (33-1-3).  
These two statements appear to be contradictory. If reducing burro numbers results in minimal livestock increases, is the reverse true? The statement made in 34-2-9 seems to be an arbitrary decision not based on fact. Further, it implies that ranchers will be penalized for conditions beyond their control.  
C. Are the constraints placed on burro reductions by the Wild Horse and Burro Act the reason for making the statements in 34-2-9?
- 6. The use of 800 pounds of forage (15-2-5) for one AUM may not be accurate for the type of land and vegetation present in the EIS area. In a review study on forage intake by grazing livestock (F.J. Cordova, J.D. Wallace, and R.D. Pieper: Journal of Range Management 31:430-438) it was shown that most estimates of intake for cattle in the western U.S. are within 1.0 to 2.8 percent of body weight and that this varies with plant maturity and vegetation type. Thus, the 800 pound figure is at the uppermost limit of this range of values for a 1,000 pound cow. A better average figure would be to use 600 pounds per animal unit. If this value were used, the "initial" stocking rates could be increased by 33 percent. More research is needed on a site specific basis to answer the question on forage intake values.

15-2

15-3

15-4

15-5

15-6

15-1



- 15-7
7. An animal unit was defined as one cow or its equivalent (15-2-5). Historically, an AU has been considered as a 1,000 pound cow and her calf until it was weaned. No mention is made as to how conversion factors for various classes of cattle nor as to how calves are handled.
- 15-8
8. It appears as though the BLM is attempting to set carrying capacities on controlled land (page 16, table 2-1). It has been our understanding that the carrying capacity on land controlled by other than the BLM is set in a formal lease between the rancher and landowner. This figure would then be added to the carrying capacity set on BLM lands. In Table 2-1, it is shown that on public land, there will be a 54 percent reduction while on public plus controlled land there will be a 53 percent reduction. Since BLM lands comprise 65 percent of the EIS area, it would be expected that when controlled lands are added, the total reduction would not be as severe. This point needs to be clarified.
- 15-9
9. It was stated that utilization of annual plants would be limited to 50 percent (20-1-5). There seems to be little justification for this. The remaining 50 percent has little value for erosion protection, wildlife cover, contributing to soil organic matter, or small animal feed.
- A. Following anthesis, the annual will dry up into basically nothing. In certain instances annuals will build up sufficient cover to protect the soil. For example, in the Pacific Northwest medusahead wild-rye is known to build up stands dense enough to protect the soil resource throughout the year.
- B. 50 percent utilization does not imply that the remainder of the plants are left for wildlife.
- C. The contribution that annuals make to the soil organic matter is primarily through its root system. This generally develops prior to the maturity of above ground material and as such is not highly susceptible to grazing influences.
- D. Typically, 50 percent utilization is cited as a safe amount of a perennial forage species that can be removed. This is to leave enough photosynthetic area (leaves) to replenish the carbohydrate supply stored in the roots for plant vigor and reproduction. Annual plants do not have these same requirements. There is little need for an annual plant to store carbohydrates except to set seed. The annual does not have to undergo the stresses of drought or winter. It simply does not grow unless conditions are favorable.
- E. Therefore, as we see it, there is little evidence to suggest that there are any biological or physical reasons to limit utilization to 50 percent on annuals in Arizona in average or better years. In poor years, the annuals will likely not produce a crop of significant enough size to warrant officially grazing them. Thus, in poor years, what few annuals do grow would be essentially ungrazed.
- 15-10
10. It was stated that the increase in jackrabbit numbers appears to be associated with declining rangeland trend (53-1-7). It was also stated that jackrabbit populations would probably not change significantly under the proposed action (78-1-2).
- A. If the proposed action will reverse and improve the declining rangeland trend, and the statement of 53-1-7 is true, why won't jackrabbit numbers decline under improving trend? The arguments do not appear to be consistent.

- 15-11
- 15-12
- B. Can the statement on 53-1-7 be documented?  
 C. Is it possible that the increase in numbers is also caused by increased predator (coyote) control, or by cyclic population patterns?
- 15-13
11. In several places throughout the EIS, mention is made of rangeland trend. It was stated that "trend studies show changes in vegetation and soil over time" (22-2-3). However, on page 42 in the section on "apparent" rangeland trend, it is noted that the trend data was collected on a one-year basis.
- A. For the uses being made of the trend concept in this EIS, basing statements concerning trend (changes through time) on one year's subjective evaluation of apparent trend should only be done with a full understanding of the subjectivity of the method together with any pertinent qualifying statements.
- B. The amount of error that could be associated with the methodology (Appendix 1-1) may be too high for any meaningful and useful interpretation.
- C. Many of the vegetation and soil characteristics used to determine apparent trend are subjective evaluations, especially on a once-over inventory. These include plant vigor, soil crusting, soil movement, compaction, and plant residues. Although it may be possible to identify these factors, it would be extremely difficult to place any kind of confidence statement on the data.
- D. Beyond any statistical reliability of each factor, the question arises as to how these are combined into a trend rating that is objective. It appears that this has been done subjectively and should be identified as such. Therefore, the use of apparent trend in this EIS seems marginal, at best.
- 15-14
12. The use of cover to indicate apparent trend (70-2-3), especially on a few years sample, does not seem wise. Cover will vary yearly and seasonally with changes in temperature and precipitation regimes. Therefore, many years of this type of data is needed in order to make reasonable inferences.
- 15-15
13. The BLM acknowledges the shortcomings in their one year inventory data (69-1-9). They state that they feel it is the most reliable existing data.
- A. Since the inventory is so basic to everything stated in the EIS, this statement should be made explicit early in the document so that the readers are aware of the limitations of the inventory.
- B. The adequacy of the data for such a drastic reduction in livestock numbers (53 percent reduction under the proposed action) is questionable.
- C. To reduce permitted numbers on a questionable data base and application of the SVIM program to establish "initial" stocking rates does not seem acceptable. To cut numbers, wait three years for the first adjustment after monitoring and say that there was a mistake will only tend to reinforce the local perception that the BLM doesn't care for local needs.
- D. In the past there has been mismanagement of the range resource by rancher and agency alike. With the redefinition of agency objectives in Federal Land Policy and Management Act, it appears as though the agency is prepared to change the ills of the past in one sweep of the pen. It would appear to be reasonable to base the initial adjustments on more than one year's data.



14. We agree that any reasonable alternative would not have a measurable impact on climate, topography, or geology (36-2-3). To suggest otherwise, shows a lack of understanding concerning earth processes. It would be a waste of time and money to intensively investigate the relationship of grazing herbivores to these three parameters.

15. Throughout the EIS there appears to be a claim to accuracy and precision not normally found in natural resource sampling. A few examples from Table 2-12, page 37 are illustrative.

- A. Usable forage production is estimated to the nearest pound.
- B. Cover is estimated to within  $\pm 0.5$  percent.
- C. Big game numbers are estimated to the last animal.
- D. Calf crops are estimated to the nearest percent.
- E. These are examples of using SVM output and inventory input too literally.

16. It was stated that cotton woods are not regenerating due to "excessive livestock utilization" (54-1-1).

- A. Is this due solely to livestock? Certainly livestock have been a (major?) factor in this problem, but to place the entire blame on them does not seem reasonable.
- B. Do traditional browsing animals (deer, burros, pronghorn antelope) have any role in this "excessive utilization"?
- C. Can browsing by livestock be differentiated from browsing by other herbivores?

17. It was shown that there was an assumed direct relationship between rangeland condition class and usable forage production (70-1-3).

- A. In Appendix 1-1 it was stated that rangeland condition was determined by comparing the present plant community to the climax plant community. This is an ecological definition of condition and has limited application to management objectives.
- B. Although the BLM has used an ecological definition to determine condition, the application has used another definition. This definition relates rangeland condition to specific management objectives and/or values. In other words, it is defined to be in good condition for cattle, or whatever is being managed.
- C. An area in excellent ecological condition may, in all likelihood, be in poor condition for cattle and good condition for deer based on the preferred forage species present. This is not to imply that there is an inverse relationship between the two definitions, but rather that they are two entirely distinct concepts.
- D. The assumed direct relationship between ecological condition and usable forage production is a false assumption. Further, this type of misuse of these two concepts in a technical document will only lead to further misunderstandings of the condition class concept.
- E. The use of this direct relationship essentially invalidates the calculations of total usable forage present for the 20 year analysis.

18. Figures are finally shown to have a confidence interval, of sorts, for annual herbage production (69-2-5). It shows an increase of 27 percent,  $\pm 13$  percent when grazing intensity was reduced from heavy to moderate, and other similar statements. The point is, why don't figures used throughout the EIS reflect this level of variability? In this example, there is

15-19  
(cont.)

a variation in the mean of  $\pm 50$  percent, which may be fairly good for desert and semi-desert vegetation sampling.

19. The conclusion reached in 70-1-1 does not seem in line with the figures given earlier. There was a 27 percent increase in production from reducing intensity from heavy to moderate and a 13 percent increase from implementing a grazing system. This equals a 40 percent increase (not counting the variability indicated). This results in 13/40 or 32.5 percent of the herbage response from grazing systems instead of the 27 percent indicated in the text. In addition, there was no confidence interval attached to the conclusion, whereas the data ranged from 14 to 40 percent for changing intensity and 5 to 21 percent from implementing a grazing system.

20. Cover estimates on riparian zones are expected to increase from 26 to 27 percent (73-1-4). We do not believe that this degree of precision and accuracy is currently feasible. The statement suggests that cover can be estimated to within  $\pm 0.5$  percent. Our contention is that there will probably not be any statistical difference between 26 and 27 percent, and therefore, the use of this type of statement is inaccurate and misleading.

21. The use of the term "authorized grazing preference" on 3-2-3 is ambiguous. Initially, discussion is focused on a 53 percent reduction from authorized grazing preference for the proposed action. Later in the paragraph it is noted that after 20 years increased forage would allow stocking levels to increase to 38 percent of the authorized grazing preference. We assume that the term authorized grazing preference is used in this paragraph to denote two distinct stocking levels.

22. On 3-2-4 it was assumed in the statement "in the long run" that the ranching operations made more stable will still be in existence following the short term financial hardships imposed on them. These hardships include, but are not limited to, fewer cattle and therefore lower sales revenue and higher fixed costs per cow.

- A. It was assumed that by ensuring the long-term stability of ranching operations that the long-term viability of the ranching industry would survive (9-1-2).
- B. In Table 2-12, page 37, the column under "eliminate livestock" assumes in the Economic Conditions section that the ranches would still be in business. Our calculations show that 25 small ranches would need to combine to be equivalent to the respective existing situations.
- C. It was stated that most small ranchers would reduce their herd and continue their operation while maintaining outside employment (87-2-2). This assumption does not take an economic look at whether these small ranches can then afford to pay their fixed costs on this reduced economic base. This is also the case for medium ranches.
- D. Also in Table 2-12, it is difficult to perceive how a ranch can sustain a 53 percent average reduction (3-2-3) in numbers and still be able to increase net revenues when fixed costs remain fixed.

23. Overall, the Economic Analysis (pages 86-88) portion of the EIS is inadequate for several reasons.

15-16

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- 15-26 A. What discount rates were used in the economic analysis?
- 15-27 B. Was only one discount rate used or were several used to test the sensitivity of the results to the rate?
- 15-28 C. Are the figures shown (Tables 4-14 and 4-15) for only the most favorable discount rate?
- 15-29 D. Why are both 20 and 30 year periods used in this analysis? Since 20 years was estimated to be required to meet the AMP objectives for long-term sustained productivity (18-2-7), why wasn't the economic analysis done solely in this time frame? By inference, it appears that the 30 year net revenues look better than 20 year net revenues, since at 30 years, two of the three ranch sizes show positive net revenues. There is no way for the reader to verify or refute this since the discount rate and cash flows are not given.
- 15-30 E. Was the same discount rate used for all sizes of ranches or was the most favorable rate chosen for each site?

24. Throughout the EIS, whenever regional economics are discussed, the impact of income multipliers is ignored. It is well documented that income derived from a basic industry (agriculture) is new money to the area, as opposed to a service industry which is recycling old money. This new money is then circulated through the regional economy so that eventually the original dollar has contributed from 2 to 5 times that amount (depending upon the region). The use of these multipliers in the regional economic analysis would more accurately reflect the importance a basic, income-generating industry has to the economy of Mohave County.

25. How can this EIS plan meet the "economic needs" (page 1) of the area when all sizes of ranches are losing money (page 67, Table 3-12), which will be further aggravated by reduction in numbers?

26. The statement was made that "the current market value of an AUM is estimated to be \$125 or \$1,500 per cow yearlong" (67-1-4). The phrase "on BLM land" should be added to the statement as many studies have shown different market values for BLM, U.S. Forest Service, State Land Department, and private lands.

27. It was stated that the proposed alternative proposes \$3,184,500 in improvements (20-2-1). Our calculations show that it will take approximately 80 years to pay this amount from the rangeland improvement fund derived from grazing fees. This was computed as 34,242 AUMs (16-1-2) times \$2.31/AUM (1981 grazing fee) equals \$79,099 of which one half, or about \$40,000/year, is available for improvements.

- 15-31 A. It should be pointed out in the EIS why the BLM is spending public dollars on projects with a benefit-cost ratio of less than 1:1 (90-1-1)? Are there subjective benefits being placed on multiple-use intangibles? If so, what are they?
- 15-32 B. It was assumed throughout the EIS that funds will become available to fully implement the selected alternative (69-1-4). If this assumption does not materialize, what will occur? Will the no action alternative become the accepted plan?

28. The use of riparian habitat is an issue throughout the EIS. The Range Research Task Force is currently undertaking a study to evaluate the riparian habitat along a section of Burro Creek. An on-the-ground survey revealed that this zone has been severely impacted by winter flooding in 1978, 1979, and 1980 followed by a relatively mild winter of 1981. The objectives of this study are:

- A. To evaluate the re-establishment of woody species on the riparian zone under an intensive grazing management system.
- B. To evaluate changes in the riparian plant community.
- C. To monitor trend on these riparian areas.
- D. To evaluate the density of the shrubby and woody species in the riparian zone.
- E. To evaluate the cover of shrubby and woody species in the riparian zone.
- F. To test alternative methods of tree seedling protection from herbivores.

The study will be designed to help ascertain the probable impacts of livestock grazing on the regeneration of shrubby and woody species, and to partially separate these impacts from wildlife impacts. It addresses the concerns raised throughout the EIS.

It was stated that there were research needs identified for experimental, small-scale prescribed burns and land treatments in oak brush-ceanothus chaparral, and on the effects of specific grazing management activities on various rangeland resources. These two broad research areas are within the RRTF stated objectives. We would be pleased to assist and cooperatively develop studies such as these.

15-35

Sincerely,

*John A. Tanaka*

John A. Tanaka  
Research Associate

*Del W. Despain*

Del W. Despain  
Research Associate

*Jimmy T. LaBaume*

Jimmy T. LaBaume  
RRTF Leader



RRTF POSITION STATEMENT CONCERNING SVIM AND ASSOCIATED FORAGE ALLOCATION MODELS

In an effort to standardize and improve range inventory techniques used within their agency, the USDI Bureau of Land Management (BLM) has developed a comprehensive procedure entitled "Soil-Vegetation Inventory Method" (SVIM). Inventory data concerning forage resources collected through SVIM are then used in a linear programming optimization model for allocating available forage on BLM lands to livestock, wildlife, and burros.

SVIM and the associated forage allocation models have been based upon fundamentally-sound principles and theory. However, there are many assumptions made and numerical factors used in these procedures for which there is not a sound basis because information and data are lacking and/or because there are inherent weaknesses in the assumptions themselves.

Position Statement

The University of Arizona Range Research Task Force (RRTF) takes the following position concerning the SVIM procedure and associated forage allocation models as they relate to livestock, wildlife, and burro management.

1. Because of weaknesses, room for unacceptable error, and lack of ability to specify confidence, SVIM and associated forage allocation models should not be used for establishing carrying capacities or stocking rates for any grazing allotment or management scheme.
2. In spite of the weaknesses, these procedures have merit and should be useful as tools in some decision making situations when used very carefully with full understanding of weaknesses and implications. Advantageous uses of the procedures might be on a comparative basis looking at potential impacts, interactions, and tradeoffs of various management schemes including grazing systems, animal species combinations, livestock operations, and so forth.

Discussion

The following points represent what we consider to be major criticisms and weaknesses of SVIM and the forage allocation models.

1. The forage allocation models used with SVIM require a substantial data base for any reasonable approximation of actual conditions. The modified sampling procedure used with SVIM by the BLM in Arizona is basically an estimation procedure that does not provide a level of accuracy adequate for establishing specific carrying capacities or stocking rates. What sample data are gathered by the Arizona BLM through SVIM usually come from one year's sampling and do not account for any yearly or seasonal variation. Estimated adjustments are made to account for this variation; however, these adjustments include additional sources of error (see item 9).

If all "strata" and all "site write-up" areas were sampled strictly according to the standard SVIM guidelines, the accuracy of the data would still be questionable. Double sampling techniques at the level of intensity used with SVIM have low confidence levels with respect to precision. The problem is intensified in desert communities where the vegetation is sparse.

2. At this point in time, proper use factors (PUF) for individual plant species are generally estimates and should be regarded and used as such. The probable error in these estimates compounded with the variations within a species under different conditions (and probably different management systems) make their use for determining stocking rates questionable.

Proper use factors are very important influences on the stocking rates generated by the forage allocation model. Errors in these factors can create large errors in the total portion of available forage that is allocated to grazing animals.

3. In addition to variation in the amount of forage allowed, errors in proper use factors (as defined by the BLM) can also result in misallocation of forage to various animal types or uses. The forage allocation model used with SVIM allocates forage according to dietary preferences. If "relative preference values" are not entered directly into the model, then the values are calculated from proper use factors. The relative values of the proper use factors with respect to each other are more important than the actual values in this application.

Because actual relative dietary preference varies depending on availability or importance of each species in the plant community, "composition weighted relative preference values" are used in the forage allocation model to help avoid biases in the preference values. Some degree of confidence in this weighting of preference values requires a higher degree of confidence in species composition data than is likely obtainable through the modified SVIM approach used in Arizona.

Even if relative preference values are determined from dietary studies and are entered into the model, distortions can occur when yearly averages are used. This is especially true for fluctuating forage sources such as annuals. Analyses in Arizona up to this point in time consider yearlong grazing without changes in relative dietary preference. Seasonal changes in preference must be accounted for as species composition and plant phenology changes.

Errors inherent in dietary studies must also be considered. This includes differences of fecal botanical composition, especially when uncorrected for plant differences in digestibility.

Caution must be exercised in using dietary preference factors regardless of how they are developed because dietary overlaps between animal species controls the amount of available forage that is actually utilized. Incorrect overlaps in the estimated diets can restrict or expand stocking levels inappropriately. The "dietary range factor" used in the allocation model recognizes error in the preference factors, but does not necessarily improve the results.



4. The modified SVM model procedure used by the Arizona BLM in the past estimates production of annuals as 10 percent of the total herbage production as estimated for unfavorable years, and then applies a 10 percent proper use factor to this figure. This allowance for annuals must be treated strictly as an estimate.

The reason currently given by the Arizona BLM for using a 10 percent proper use factor for annuals is "to assure that no more than the allowable use is made of the key species." This is not valid. Proper use factors as used in the forage allocation model must reflect dietary preference. "Allowable use factors" are entered into the model separately which limit the use of each species including the key species.

Care must be taken in determining how to allow for annuals. The forage allocation model requires that proper use factors reflect the high preference for these plants by all herbivores. However, high proper use factors can result in dietary overlap which can greatly restrict the total carrying capacity allowed in the forage allocation model to a level less than when the proper use factors for annuals are kept low. This occurs because annuals become the limiting factor when all allowable forage from annuals is allocated or used. There is probably no reason for restricting grazing use of perennial forage because of lack of annuals.

If forage production of annuals is considered separately from the forage allocation model in determining stocking rates, this eliminates these problems. However, the allocation model is no longer valid as it no longer represents actual conditions during periods when annuals are important in animal diets. Breaking the grazing period into months or seasons for separate analysis with annuals accounted for appropriately in the model during each period would help overcome some of these biases. However, the ability to quantify the seasonal, yearly, and spatial variability of annuals is limited at this time. Because of this variability and lack of information, forage allocation models are not well adapted to situations where annuals are important and results should be interpreted carefully.

5. Using a 50 percent allowable use factor for annuals is considered by many to be overly conservative. While the 50 percent allowable use factor commonly used for perennials is intended to account for watershed and soil protection, wildlife use, and so forth, the major consideration is year-to-year maintenance of plant vigor. This is not a consideration with annuals, and so the allowable use factor for annuals can probably be quite liberal. Annuals are also less valuable for watershed and soil protection than are perennials.

6. The general intake figure of 800 lbs/AUM of forage for cows is often considered to be too high for desert ranges due to such factors as comparative low digestibility of the forage. Even in good condition, forage on desert ranges is probably low in quality compared to many western rangelands. There is even less known about intake figures for wildlife and burros. Because of the variability and uncertainty in forage intake values, their use in determining carrying capacities and in making forage allocations has been severely criticized.

7. Carrying capacity figures generated by use of "rule of thumb" type allowable use factors and forage intake values are generally conservative and are usually considered to take into account wildlife use, watershed protection, etc. If the allocation model is used for forage allocations are made to these resources, then less conservative figures can probably be used for allowable use factors and forage consumption factors.

8. The BLM in Arizona currently eliminates all acreage with less than 25 lbs/acre useable forage from consideration in determining carrying capacities. The basis for this exclusion is to avoid over-utilizing the better range areas where animals concentrate in preference to the less productive sites. The application of this approach depends on each individual allotment and management situation. There is probably no way to know what the level of reduction should be beforehand. Where management efforts are made to control animal distribution in any way, this approach breaks down. This is particularly true under intensive management systems and efforts. The best way to account for uneven distribution is to monitor utilization on key areas and adjust stocking and/or distribution efforts accordingly.

9. Range suitability, phenology adjustments, and average forage production adjustments are so highly subjective and potentially variable that they should be used very carefully, if at all, in formulas for determining carrying capacities. The modified SVM approach used by the BLM in Arizona incorporates phenology and average forage production adjustments into the forage production and composition estimation process. This adds an additional level of subjectivity to the data that must be considered.

The SVM allocation model allows for trying various average forage production values in order to test for sensitivity to variable climatic conditions. This could be done to see what the implications of variation in climatic conditions and forage production might be. These kinds of sensitivity analyses represent potentially advantageous uses of forage allocation models.

10. Linear programming optimization models such as the forage allocation models used with SVM by the BLM are useful tools in decision-making. However, the inherent assumptions in linear programming must be recognized when interpreting the results. Linear programming assumes a linear relationship between inputs and outputs to the program model. The relationship between the total amount of forage and the number of animals that can graze that forage is not necessarily linear due to such factors as travel distance (dependent on density and distribution of the vegetation, topography, location of water, etc.), forage quality, animal densities, animal type interactions, and so forth.

Also it must be realized that linear programming models (irrespective of inherent weaknesses in the models themselves) are only as good as the assumptions and data used in the model; the weakness of which was pointed out for SVM above.

The linear programming technique used by the BLM for forage allocation involves a significant number of "constraints" and provides several options or models for application of the analysis to the data. This flexibility makes this technique useful, but also points out the impropriety of accepting the output of these models at face value.



PRCC Comments

In September of 1977, a special workshop was held in Reno, Nevada to review and discuss the proposed SIM (now SVIM) procedure. This workshop was attended by members of the 12 state Western Universities Public Range-land Coordinating Committee (PRCC). In a consensus statement presented by 14 members of the coordinating committee following this workshop, several points were made which are pertinent to this discussion:

1. Initial stocking rates obtained using SIM are subject to the same limitations as other subjective methods. There are too many 'adjustments' and 'factors', each with its own inherent error, to allow SIM to improve on the 'stock and monitor' philosophy. Proper stocking can be achieved by monitoring actual use, utilization patterns and vegetative trend.
2. Proper use factors (PUF) can be useful if their limitations are recognized. The variability within a plant species from area to area, from management system to management system, and plant community to plant community is so great that PUF's are probably not better than a general 'take half-leave half' philosophy. Since knowledge about plant resistance to grazing, animal dietary needs, and selective grazing is limited, PUF's should not be used to 'split hairs' but as very broad guidelines in estimating available forage for herbivores.
3. Average-year production adjustments have not been subjected to enough testing to justify their applications in broad management guidelines. If used in local areas, this may be possible in the future after testing.
4. Ephemeral plant species should be included when grazing capacities are estimated. Adjustable or flexible stocking rates are appropriate in areas where ephemeral plants are an important forage source.
5. ...forage requirements based on 1,000 pound animals automatically give a 10 percent margin of safety. This 90 pounds of forage is therefore available to the system as litter and forage for wildlife.

Available forage is derived as a calculated percentage of annual herbage production. If the 'take half-leave half' philosophy is subscribed to, a maximum of only half of the total annual production of herbage is classified as available forage. This allows half of the annual herbage production to return to the system for nutrient cycling, wildlife needs, plant needs, and watershed protection...

Within the margin of safety built into the AUM of forage (based on 1,000 pound animals) and the allowance made by taking half and leaving half (or with PUF's), over half of the annual herbage production is available to the natural system. 'Take half-leave half' management would therefore allow 45 percent of the annual herbage production for domestic livestock use and 55 percent of the production for return to the system.

RESPONSE - LETTER 15

15-1

We cannot project the extent to which reduced stocking on non-federally administered allotments would increase pressure on non-Federal areas. This is a broad assumption and is true only to the extent that livestock operators have the option of using other grazing areas to offset lowered stocking rates called for in the proposal. We suspect that most permittees in this EIS area would not have this option because of geographical relationships and the land ownership pattern. Any adverse impacts from increased grazing pressure elsewhere would offset gains on public lands.

15-2

A definition of initial stocking rates has been added to the glossary for clarification (see Errata).

15-3

See General Responses 3 and 4.

15-4

Projected decreases in percent cull cows are based on expected improvement in the overall health of the animals, not on their age. Relationships between improved livestock performance, increased reproduction, and lower cull rates have been reported locally and documented in the literature (Arizona Inter-Agency Range Committee, 1972).

15-5

Big-game forage has been allocated with the knowledge that existing populations will take their forage requirement without regard to plant requirements or livestock authorizations. Since BLM cannot control big-game numbers--management responsibility lies with the Arizona Game and Fish Department--BLM can exercise little discretion in this matter other than to ensure that the big-game

forage requirement is met. For BLM to do otherwise would be to ignore its responsibility for sound resource management.

Similarly, BLM is directed by provisions of the Wild Free-Roaming Horse and Burro Act of 1971 to manage wild burros "in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands" and to consider the burros "as an integral part of the natural system..." These requirements can only be met through allocations that (1) meet forage requirements for the existing numbers of burros and (2) avoid overcommitment of the forage resource.

The identified constraints determined the order of allocation once forage had been estimated by allotment. No other priorities for management can or should be assumed on the basis of the mechanics of this process. Furthermore, although total AUMs allocated for wild burros may not be significant on an EIS-areawide basis, they may be significant on the few allotments affected. The current allocation must account for the existing number of animals, not for those planned in the future. The alternative would continue to allow an overcommitment of forage, the effects of which are well documented in other sections of the draft EIS. The decision to adjust allocations pending removal of excess burros is thus hardly arbitrary and is based on fact.

15-6 Review of literature shows that forage intake requirements for cattle range from 500 to 1,600 pounds of forage (dry weight) per AUM. Literature can be cited in support of either extreme. Literature research and personal contacts by BLM specialists support the use

of 800 pounds of forage (dry weight) per AUM as an average forage requirement for a 1,000-pound cow and her calf. The 800 pound forage requirement also accounts for natural disappearance and wastage.

Selecting a lower forage requirement for light cattle can keep the range at the present condition or limit improvement to a much slower rate. Once monitoring studies are evaluated, stocking rates will be adjusted as needed and will account for variations in forage intake.

Also see General Response 3, which addresses how monitoring will be used to adjust from initial stocking rates.

15-7 BLM recognizes an animal unit as a 1,000-pound cow and her calf or its equivalent. Steers and calves of 6 months or older are also considered animal units.

15-8 In a cooperative agreement, BLM and the State Land Department have agreed to set a mutual carrying capacity on State-controlled lands. Because privately controlled lands are often intermingled with public lands in an allotment, BLM must set an upper limit on the carrying capacity of the private land to preclude overstocking of the adjacent public lands. An alternative is to fence private land boundaries, which is seldom economically feasible or technically sound.

15-9 A 50-percent limit on utilization of annuals would not biologically benefit the annuals. BLM, however, is committed to multiple-use management and must consider other values, such as watershed, wildlife, and visual resources when authorizing grazing use on annuals during years of favorable precipitation and temperature.

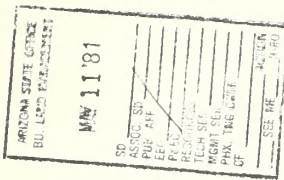


- 15-10 The draft EIS (page 78) acknowledges that jackrabbit numbers would decline on the La Cienega and Chicken Springs allotments.
- 15-11 The relationship between rangeland condition and rabbit populations is well documented in numerous studies (Norris, 1950; Taylor, Vorhies, and Lister, 1935; Turkowski, 1975).
- 15-12 Fluctuations in populations may be caused by one or more of several factors, including forage, predators, and disease. Jackrabbits, however, are known as K-selected species--those limited not by reproductive capabilities (R-selected)--but by carrying capacity (food). For K-selected species, the influence of predators is usually not significant.
- 15-13 BLM recognizes that apparent trend is based on a 1-year observation and thus may not reflect the actual long-term trend of an area. As discussed on page 22 under Monitoring Studies, however, the trend data will be collected over a number of years and will show changes in vegetation and soil over time. Page 42 describes how apparent trend is used and allocated for analysis purposes only. The rangeland inventory determined apparent trend, which is used as a classification to be verified through the rangeland monitoring program. As such, apparent trend is not used in determining initial stocking rates.
- 15-14 Vegetation cover is not an important factor in determining apparent trend, since it represents only a single year's observation. Vegetation cover is important in determining rangeland trend, which involves data collection over a period of time.
- 15-15 The term "apparent" on page 70, paragraph 3, first sentence has been deleted from the text.
- 15-16 See General Responses 3 and 4.
- 15-17 Other grazing animals contribute to the excessive utilization of riparian habitats, and the language in the draft EIS has been changed to eliminate this confusion. Knowledge of herbivore populations in these areas and recent studies (Millsap, 1979; Kepner, 1979), however, show that livestock are a major factor in this problem.
- 15-18 No such accuracy is intended. The numbers simply reflect the data as received from the inventory sources and the forage allocation model. Rounding the numbers to whatever standard will not improve their accuracy.
- 15-19 Figures used in the EIS represent thousands of calculations made in the inventory and planning phases. Determining levels of variability and attempting to document them in the EIS would be nearly impossible. We have felt it sufficient to state that the numbers are estimates based on the best existing information. These numbers will be modified as new information shows changes are needed.
- 15-20 We recognize that ecological condition differs from forage condition for a specific grazing animal. An analysis of the data and range site guides showed a direct relationship between ecological condition and usable forage on most range sites. Usable forage was determined by an allowable use factor, which reflects the plant's biological limit to grazing rather than a given animal's preference (proper use factor).

- 15-20 Corrections have been made to the text.
- 15-21 We concur. The language in the text has been changed accordingly.
- 15-22 At first, livestock grazing would be reduced by 53 percent from the current authorized grazing preference. Twenty years after implementation, stocking levels would rise to within 38 percent from the existing authorized grazing preference or 62 percent of the existing authorized grazing preference. Current "authorized grazing preference" refers to the present situation.
- 15-23 On page 123, under Small Ranch Budgets, the draft EIS recognizes that some ranchers may be forced out of business under this alternative. It was not feasible to determine how many would be so impacted.
- 15-24 The ranch budgets (Table 4-15, page 88, draft EIS) for the proposed action reveal that net revenue would remain positive after the reductions in herd size. Fixed and variable costs (see Table 3-12, page 67, draft EIS) were subtracted from gross revenue to determine net revenue. Thus operators of small, medium, and large ranches could still cover their fixed and variable costs and have a positive net revenue.
- 15-25 The initial 53 percent herd reduction under the proposed action would reduce net revenue from existing levels (Table 4-15). Within 20 years after implementation, however, an increase in herd size from the reduced level is expected, which, combined with improved calf production, would increase net revenue above existing levels.
- 15-26 The discount rate used was 7.125 percent. Only one discount rate was used throughout the analysis. No sensitivity analysis was used to test the effects of varying the discount rate.
- 15-27 The figures shown are for a discount rate of 7.125 percent.
- 15-28 The 30-year period was selected for the present value analysis of the stream of income occurring over 20 years of increasing revenue and 10 years (year 21-30) of stable income. The net revenue figures in the EIS are for the first year after the reductions take place and for the 20th year. Thus net revenue figures represent points in time, whereas the present value analysis measures changes over time. The cash flows are assumed to be linear from year 1 to year 20. A stable cash flow is assumed from year 20 to year 30.
- 15-29 A discount rate of 7.125 percent was used for all ranch sizes.
- 15-30 EIS area ranches earned approximately 5 percent of the 1978 value of livestock and livestock products sold in Mohave County (draft EIS, page 67). This amount was determined to be insignificant when compared to the total economy of the county. Thus we felt that carrying the regional impacts to a secondary level would be of little value.
- 15-31 The initial reduction would reduce net revenues for all ranch sizes. Long-term forage increases combined with improved calf production should help stabilize the rancher's net revenue at a higher level than would exist under the no action alternative (Table 4-15).
- 15-32 The value of an animal unit is a typical figure for ranches in the area with Federal, State, and private lands.



FOUR CORNERS WILDERNESS WORKSHOP  
715 West Apache  
Farmington, New Mexico  
87401



May 8, 1981

Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Dear Sir:

Reference: The Hualapai-Aquarius Draft Environmental Impact Statement.

I have been a range conservationist and examined this area for our group and also made recommendations to another conservation group. Although not making an actual survey to determine recommended stocking rates, the areas observed to be heavily used and suffering from accelerated erosion were proposed in the statement for quite substantial decreases in stocking. If these new stocking rates are put into effect along with the grazing systems proposed, I believe there would be definite improvement of vegetation and soil protection.

The way the impact statement is written causes some concern about riparian areas and wildlife habitat under the proposed action. I would tend to agree with an opinion expressed by one of your people that riparian areas would improve under the proposed stocking even though the statement would indicate that they wouldn't. However we are very concerned that these areas do indeed improve and feel that the proposed action should definitely state that close monitoring will be done and special actions such as fencing will be undertaken if improvement does not occur. Otherwise we would support the wildlife enhancement alternative. We would recommend altering fencing plans to decrease impacts on bighorn sheep particularly in the Aubrey Peak critical lambing and high use area. We strongly support the burro reduction program.

We cannot overemphasize the importance of good monitoring and making the results widely available to the public. We recommend carefully repeated pictures of the same locations accompanied by data on production changes and trends in soil erosion and vegetation. These should be published from time to time so

RESPONSE - LETTER 15 (Cont.)

- 15-33 The proposals with benefit-cost ratios below 1:1 will be reevaluated when allotment management plans are developed. BLM's policy is to fund rangeland developments for allotments with benefit-cost ratios above 1:1 or where the developments are needed for critical resource protection.
- 15-34 Should BLM lack the funds to implement a selected alternative, it would reevaluate plans for each allotment and determine the most desirable course of action, given economic constraints and resource needs. BLM might select no action or the less costly moderate grazing alternative.
- 15-35 We endorse the suggestion for cooperative studies and hope to accelerate the building of a sound working relationship with the Range Research Task Force. We believe that such cooperation is essential in developing a successful rangeland management program for the Hualapai-Aquarius Planning Area.
- 15-36 See General Responses 1 and 4. This EIS's purpose is not to debate the basic assumptions of SVIM, but to analyze the impacts of implementing the rangeland management proposal and the alternatives.

17

ARIZONA STATE OFFICE  
FOR LAND MANAGEMENT  
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GEORGE F. GETZ, JR.  
CHAIRMAN AND  
CHIEF EXECUTIVE OFFICER

May 11, 1981

Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Re: Hualapai - Aquarius Draft Grazing Environmental  
Impact Statement - Response of Globe Corporation,  
Allottee of Hualapai Peak Allotment.

Attention: Clair M. Whitlock, State Director

Gentlemen:

Please find enclosed herewith comments of Globe Corporation,  
the current Allottee of Hualapai Peak Allotment, with respect  
to the Draft Grazing Environmental Impact Statement for the  
Hualapai-Aquarius Planning Area in Mohave and Yavapai Counties,  
Arizona.

Cordially,

*George F. Getz, Jr.*

GFGJr.  
al:g

interested persons can know what is actually happening to the  
land and assist and be sympathetic to management practices.

We are very interested in the wilderness study areas and unique  
habitat types. We would oppose developments that would injure  
wilderness values--apparently the proposed actions would have  
little effect on the wilderness study areas. The southwest  
side of the Hualapai Mountains has an unusual convergence  
of Mohave Desert and Sonoran Desert vegetation. Typical plants  
of the Mohave such as the Joshua trees and California (?) juniper  
intermingle with Saguaro Cactus and Palo Verde of the Sonoran  
Desert. Fencing would give opportunity for a sizeable area (at  
least 10000 acres) to be set aside as a unique natural area and  
for study. We note that this area is rather checkerboarded in  
ownership and would recommend consolidation under the BLM  
possibly by land exchange.

We appreciate this opportunity for commenting.

Sincerely yours,

*Donavon H. Lyngholm*

Donavon H. Lyngholm  
Secretary  
Box 103  
Flagstaff, AZ 86002



COMMENTS OF GLOBE CORPORATION  
DRAFT GRAZING ENVIRONMENTAL IMPACT STATEMENT  
HUALAPAI-AQUARIUS

April 28, 1981

GENERAL COMMENTS

The DES is entitled "Draft Grazing Environmental Impact Statement." It is interesting to note that a rather dramatic change in heading has taken place in connection with the Hualapai-Aquarius document as it is so very apparent that the phraseology utilized in connection with the Draft Environmental Statement of the Cerbat-Black Mountain Planning Units which was entitled "Proposed Livestock Grazing Program" was not fully acceptable to the planners who now refer to their study as a study which embraces grazing for wildlife, burros and livestock in that order. Even the cover sheet of the DES emphasized this priority when one notes the large pictures of a burro and a deer in the foreground and a small picture of a cow in the far background. The interested reader must come to the view that grazing for wild game and burros is more expertly planned and is more enthusiastically supported than is true of a domestic live-stock grazing program.

It is recognized that BLM has been handicapped in the past in that range personnel have been too few to gather detailed information needed to substantiate proposed future actions. They have been forced to utilize subjective observations in the casting of decisions. It is submitted that this kind of information is not

ACRONYMS

AMP	Allotment Management Plan
AUM	Animal Unit Month
BLM	Bureau of Land Management
DES	Draft Environmental Statement
ES	Environmental Statement
ES AREA	Area Embraced by the DES
HA AREA	Hualapai-Aquarius Area
MFP	Management Framework Plan
NEA	Natural Environmental Area
NEP ACT	National Environmental Protection Act

sufficient to meet the requirements of the NEP Act. The DES, when finally accepted, must meet the requirements of the NEP Act, which, among other things, requires a detailed statement by the responsible official on -

- (i) The environmental impact of the proposed action,
- (ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) Alternatives to the proposed action,
- (iv) The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

To meet the foregoing requirements, it is obvious that accurate range trend estimates are without question the most critically needed information. Without trend data, it is not possible to devise a "proposed action program." If a proposed action program cannot be devised, then there is no basis for considering "environmental impact of the proposed action" as no one can forecast what the impact will be. Likewise, "mitigation measures", "adverse impact which cannot be avoided" or "alternatives to the proposed action" cannot be accurately and logically detailed without having first determined that the

proposed action is appropriate as being based upon information indicating trends in range conditions.

Trend has been defined quite properly as "the change in range conditions between two or more points in time". The DES (page 42) states that "range land trend is the direction of change in range land condition." A further definition is found in the following comment: "The present ecological range land condition rating alone does not show whether the plant community is improving or deteriorating in relation to its potential. Trend is a separate determination necessary for assessing what is happening to the plant community. The present range land condition is a result of a sustained trend over time. Trend is a much more sensitive indicator of change than condition." BLM has readily admitted that prior to the preparation of the DES, attempted inventory studies were made only in 1978 and 1979. Further, the DES tells us (page 42): "Since trend studies have not been established within the EIS area, apparent range land trend was determined during the range land inventory conducted during 1978 and 1979. \*\*\* The apparent range land trend information represents only a single year's observations, and it thus may not reflect the actual long-term trend of an area." It is obvious that the authors of the DES, in the absence of valid trend studies, have been forced into simple "guess work." The proposals of the DES are only statements of value judgment since they are not based upon trend



criteria properly documented. One will note that there are no objective measures or data available to show that grazing has been or is the primary contributing factor to current range conditions. The paucity of documentation, either general or site-specific, is unfortunate. Until provisions are made for the collection of data needed to support range management conditions on a scientific basis, encompassing the input of those with local knowledge and practical experience in range management, a sound and defensible range management program cannot be developed. This same reasoning was clearly expressed by the Council for Agricultural Science and Technology in its Report No. 58, dated July 31, 1976, constituting a review of the Draft Environmental Statement for the Challis Planning Unit in Idaho, wherein the following language is utilized:

"It is fruitless to try to improve a poor grazing situation without good data on the trend in the range condition and without a fairly full knowledge of the grazing pressure being applied on a given unit. Estimates of grazing capacity are approximate at best and must be checked in the field by following the trend and condition resulting from actual use. However, if permitted livestock grazing is only a part of an unknown total amount of actual use, as in this case, nothing but frustration can result from trying to work out proper stocking rates. Significant numbers of wildlife and trespass AUM's must be considered. Permitted AUM's must be adjusted to allow for other uses. The draft EIS does not seem to contain evidence that the data on the trend in range conditions are satisfactory; that use of the range by wildlife is known, allotment by allotment; or that use by trespass stock is taken into

consideration. The title of the draft document implies that a proposed grazing plan is the principal substance of the EIS. Accordingly, the EIS is weak without a solid grazing land proposal."

The proposed action of the DES would reduce 74,417 AUM's on public lands to 34,242 AUM's which constitutes a reduction of 54% from the current authorized grazing preference. Then in effecting an allocation of AUM's between livestock, deer, big horn sheep, javalina, burros, antelope, and elk, we are told that forage use comparison between a cow and deer is based upon an assumption that one AUM will support four deer. The fallacy of this assumption is readily apparent when it is recalled that deer are considered to be 80% browsers while cattle are considered to be only 13% browsers and thus they do not generally compete with respect to vegetation. DES statistics reflect the presence of an estimated 2,687 mule deer in the EIS area and further we are told that in the Hualapai Peak area the present numbers of deer are 151 and that there are 16 elk present. Individuals personally familiar with the areas involved are well aware that these numbers are greatly exaggerated and do not constitute accurate facts.

These allotments classified by the DES for intensive grazing would be accorded a type of rest-rotation in that one year's rest out of four is proposed during the cool season critical growth period, approximately April 15 to May 31, and one year out of four during the

critical growth period of warm-season plants, approximately July 15 to September 30. Rest-rotation or deferred grazing is relied upon to solve problems of believed over-use and resultant downward trends in range quality. Reference is not made to permanent study plots which are required to document changes which occur in the future and to determine the actual impacts of proposed actions on the ecosystems. Such studies which comprise the evaluation phase of and are an essential part of any management plan are entirely lacking. It is well known in livestock management that added stress resulting from moving from one area to another (particularly detrimental for cows with young calves) will unfortunately result in a decrease in livestock production. This means poor calf crops and low weaning weight. Additionally, it is known that concentrating animals on a range usually does cause them to eat plants that are less desirable, but first they eat the desirable plants. As animals direct their attention to undesirable species, their intake goes down, their production drops off, and other secondary effects develop. These impacts on livestock production are not given sufficient attention in the DES.

The authors of the CAST Report No. 58, hereinbefore referred to, had an interesting comment to make with respect to rest-rotation grazing:

"Rest-rotation grazing has seemingly been adopted without thorough consideration of the advantages and disadvantages. The public has accepted the

system without critical analysis of the results. Rest-rotation is unfortunately not a panacea to all grazing problems. In the long run, use of this system may be highly detrimental to both the range livestock industry and the condition of the range. In this system, livestock are crowded into half (or less) of the range area, where they are forced by limited forage availability to consume low value plants and significant quantities of dead portions of palatable plants accumulated under the previous period of rest. Research results fail to show advantages to vegetation or livestock that could not be attained under season-long grazing with the same reduction in stocking required to implement rest-rotation. The same is true of deferred rotation systems, as indicated by published results summarized by Sampson (1951)."

It is agreed that the lack of strong base-line data creates a situation pursuant to which reasonable estimates cannot be generated as to length of time the impacts on vegetation may continue and the severity that can be anticipated.

We are told that the purpose of the EIS in this instance is to inform the public of what will be the result of the BLM's proposed action. Within the NEP Act, there is not to be found a requirement that the BLM must develop the most ecologically sound program regardless of whether such program would create negative economic or social impacts judged to be greater than the ecological benefit. Rest-rotation or deferred grazing in the mountainous and desert ES area will undoubtedly produce substantial negative effects.

It is recognized that underlying the entire approach of the DES there is the concept that removal of livestock from the public



domain may well represent the desired mission. A program which would materially reduce or completely eliminate grazing from national resource lands will create major economic consequences. It is believed that a proper socio-economic analysis will convincingly reveal that reduction or elimination of livestock grazing will have severe effects not only with respect to the individual permittees involved, but with respect to the economics of Mohave and Yavapai Counties, Arizona, and the meat-consuming public of this country.

17-6

#### SPECIFIC COMMENTS

##### 1. Inventory System Utilized by BLM.

It has long been recognized that the inventory system utilized by BLM in determining forage production in pounds is a system not recognized and not accepted by other Federal or State agencies knowledgeable in making range studies. It would thus seem that much cause for debate can be readily found.

##### 2. Uncontrolled Lands.

The chart entitled "Appendix 2-4" which appears at page 152 of the DES reflects in connection with the Hualapai Peak Allotment that there are 1,281 acres of land utilized by the allottee which are classified as uncontrolled lands having no accorded carrying capacity. This approach completely ignores the law of the State of Arizona applicable to the area in which the Hualapai Peak Allotment is situated. It has long been the established rule of Arizona that one who owns land and does not desire to have his neighbor graze his land must create the necessary fencing to prohibit such grazing. Conversely, the neighbor who then grazes the land since no fences have been constructed is not considered to be a trespasser. To deny any carrying capacity whatsoever to such lands, even though they are unleased and unfenced, is to ignore policy, custom and law which apply to the range lands of the west.

17-7

### 3. Multiple Use.

The DES relates that public lands within the ES area constitutes 66% of the total lands within the area and we are further admonished to recall that by reason of Congressional mandate BLM is instructed to provide management of public range lands on a multiple-use and sustained yield basis to insure that the quality of natural resources is preserved. BLM would now have us agree that the stocking levels for livestock that it placed into effect in 1972 on the basis of historical licensed use was completely wrong, as we are now told that "to resolve these shortcomings, BLM developed a land use plan (Management Framework Plan) in late 1979 and 1980."

(Page 7) It would seem pertinent to inquire at this point as to why all that BLM had done prior to 1972 was in error and why is it that all that it did in 1979 and 1980, without the presence of trend data, is suddenly entirely satisfactory to meet the Congressional mandate of multiple use. The elimination of livestock grazing is not a required compliance with the Federal Land Policy and Management Act of 1976 nor is a practice of affording priority to wildlife and wild burros a required compliance with such Act. It is interesting to note at this juncture that Table 2-12, page 37, illustrates that if grazing of livestock should be eliminated within the ES area less pounds of usable forage will be available than would be available under the proposed action. Similarly, if livestock grazing is

eliminated, there would be less excellent and good range conditions than there would be under the proposed action which envisions the grazing of livestock. Although there is an obvious desire to restrict the grazing of livestock and increase the grazing of wildlife and wild burros, Appendix 2-2 at pages 142 and 143, notes that with respect to the Hualapai Peak Allotment the reduction of 720 AUM's to 90 AUM's would afford big game 228 AUM's. And yet the same chart at page 146 finds that there are only 228 AUM's available for big game if the grazing of livestock should be eliminated entirely.

### 4. Present Range Conditions.

There appears to be no justification whatsoever for proposing that the Hualapai Peak Allotment be reduced from 720 AUM's to 90 AUM's (400 reduced to 48 head - 15% Federal range) when an examination is made of Appendix 3-1 (page 167) which is entitled "Current Range Land Condition and Apparent Trend by Allotment." This chart reflects that within the Hualapai Peak Allotment there are 5,302 acres which are classified as fair. Trend-wise, 1515 acres are considered to be improving, 3,630 acres are static and only 157 out of a total of 5,302 are indicated to be in a downward trend. It is at once obvious that the range land condition of the Hualapai Peak Allotment has not been devastated by livestock grazing and that in fact good range management has prevailed. Even though they have no trend documentations supportive of their estimate the best that

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(cont.)

the planners can anticipate with respect to the Hualapai Peak Allotment under their proposed action and wildlife enhancement is that the range condition would go from fair to good. None of it would be excellent. No mention is made as to the effect that wildlife grazing has had on the Hualapai Peak Allotment. No mention is made of drought conditions in recent years with respect to this Allotment and no mention is made of the fact that even though the allottee has been granted year-long use on this Allotment that by reason of good and proper range management less than permitted numbers are grazed only from June 1 to October 1. If factors exist which keep this range land from being classified by the planners as excellent or good, such factors necessarily have to be factors other than livestock grazing.

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5. Partial Survey of Hualapai Peak Allotment.

Much has been heretofore said concerning inventory methods utilized by the BLM and the lack of documented trend studies. However, nothing could more glaringly highlight the inaccuracies of the reductions in AUM's as proposed by the proposed action than the fact that Appendix 2-1 (page 138) contains the following statement which certainly withdraws any degree of accuracy from the philosophy of the proposed action -

"Only that portion of Hualapai Peak Allotment that is to be retained as a grazing allotment was surveyed, and thus a valid comparison cannot be made."

17-11  
(cont.)

This quote reflects an unsubstantiated but arbitrary decision to simply eliminate livestock grazing completely on a portion of Hualapai Peak Allotment as was recommended by the planners in connection with proposals to the MFP. Such proposals, without existent jurisdiction to do so, proposed the elimination of all cattle grazing within the Hualapai Peak Allotment south of an existent fence line which would include the following areas -

- (i) Burn Spring
- (ii) Yellow Pine Spring
- (iii) Dean Peak
- (iv) Hualapai Peak
- (v) Wild Cow Spring, and
- (vi) Hualapai County Park

Much of this area is arbitrarily termed a natural environmental area and thus with the whisk of a pen an economic unit of grazing capacity would be destroyed. No one possessing a pragmatic view would suggest that 90 AUM's could economically function. It thus becomes self-evident that the 90 AUM's are destroyed and the mission of elimination of livestock grazing on the Hualapai Peak Allotment has been rather dramatically met.

6. Additional Range Improvements.

The proposed action would have the allottee of the Hualapai Peak Allotment spend \$46,750 in spring development, pipe

line development, fence construction, cattle guard construction and the building of troughs. (Page 158) It must be contemplated that such expenditure is needed for the benefit of wildlife since the grazing of livestock to the extent of 90 AUM's would neither require such expenditure nor justify such expenditure. The DES, whether accurately or inaccurately, informs that all ranches regardless of size show an annual loss. How is it then that the planners can realistically propose that the allottee of the Hualapai Peak Allotment whom they say is now operating at a loss with the utilization of 720 AUM's can spend \$46,750 in range improvements at a time when only 90 AUM's are to be in fact utilized. This philosophy is certainly the road to elimination of all livestock grazing. Of relevance here is a comment contained on page 15 with respect to the proposed action which is worded as follows:

"Considerable investment would be made in range land developments to implement the grazing system, control livestock movement, and achieve better distribution of livestock grazing."

It is submitted that it shouldn't require much in the way of improvements, expenditures or labor to control livestock movement and achieve better distribution of livestock grazing when one is dealing with only 90 AUM's which means no more than 48 head of cattle for the entire ranch based on 15% Federal range. Should the allottee release the allotted number of cattle on the Hualapai Peak Allotment consist-

ing of in excess of 5,000 acres he couldn't even find them let alone control their movement. When the Hualapai Peak Allotment is destroyed by the allocation of a mere 90 AUM's, then the taxpayers will have to assume the burden of taking care of the lands within the Allotment. Drastic reductions as proposed within the ES area will have the same effect with respect to other allotments and the DES recognizes the attendant obligation once the elimination of livestock grazing does occur, when it reports (page 32) -

"To keep livestock off public lands, 1500 miles of fence, 60 cattle guards, and 100 manual gates may be required."

Initial construction would amount to \$6,949,000 and annual maintenance cost would amount to \$233,000. This simply means that all income from allottees would be severed and the taxpayers would pick up the obligation of taking care of building fence and taking care of the wildlife. While this would obviously bring about more employment within the hierarchy of the BLM, it is suggested that the taxpayer would be ill served. Statistically we are told (page 5) that recreation earnings would increase under all alternatives except no action, supporting eleven new employees under the proposed action, 9.3 new employees under moderate grazing management and elimination of livestock grazing, and 12.5 new employees under wildlife enhancement.

7. Purpose and Need.

Chapter 1 of the DES commencing with page 7 sets forth



the purpose and need for action predicated upon Congressional mandate and ten specific objectives are set forth. How does one compare a reduction from 720 AUM's to 90 AUM's with Item 5 of the ten specific objectives which has the following goal -

"Insure long-term stability of livestock operators dependent on public range lands in the EIS area."

From the view point of the allottee it seems quite impossible that his long-term stability as a livestock operator is insured when his carrying capacity is reduced to a figure that makes it impossible, not just impractical, to operate. It is suggested that most of the other allottees within the ES area will find Item 5 just as ludicrous when they rationalize their operation economically with reduction cuts in carrying capacity of greatly in excess of 50% - this in the face of being told that they have been for a number of years operating at a loss.

17-13

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#### SUMMARY

The DES has been prepared as a direct response to public controversy regarding use of public lands. About 60% of the U.S. range lands are found in the eleven western states, and approximately 22% are located in the six plain states. Therefore, 82% of the range lands in the United States are located in the seven western states. About two-thirds of the land area of the eleven western states is range, compared to only 1.6% hay land and 1.2% pasture land. Comparable figures for the U.S. are: 44% range land, 3.3% hay land, and 5.4% pasture land respectively.

Federal lands comprise about 51% of the total land area of the eleven western states and furnish 38% of the grazing from western range lands. These Federal grazing lands are used in conjunction with privately owned land and have been since the settlement of the west. Ranchers in the western states have developed a year-long supply of forage by combining permits on public lands with their private property. Private and Federal range lands are interdependent.

Many rural communities of the west are dependent upon agricultural industry. These rural communities serve as a market place and a supply source to the livestock industry. Therefore, the loss of or a drastic reduction in the use of Federal lands by ranchers

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-17-

will cause serious economic loss to agriculturally based communities. Statistics reflect that at present about 20% of our feeder calves and over 50% of our marketable lambs come from the eleven public land states. These lands are currently producing these numbers under multiple-use programs, which also provide other products and services for the public.

Of the beef cows in the United States approximately 19% are located in the eleven western states and about 39% in the six plains states, or a total of 58% in the seventeen western range states.

Upwards of 57% of the total beef cattle in the United States receive a feed supplement in addition to the range forage. Beef cattle situated in the plain states receive approximately 32% of their total year-long feed requirements from grain, silage, and hay, as supplements to range feed. In the eleven western range states, by contrast, cattle receive only 18% of their yearly feed requirements from supplements of grain, silage and hay. The importance of the grazing of cattle on the public domain is fully illustrated by the foregoing brief recitation comparing the quantities of public range lands in the western states with lands situated elsewhere. We are confronted in the DES with extension and enlargement of authority to control grazing on the public domain. A brief history of how this control originated with respect to lands not included within the national forests is succinctly stated by Thadis W. Box, President,

Society for Range Management, and Dean, College of Natural Resources, Utah State University, in an article entitled "The Past, Present and Future Grazing of Public Lands." He said:

"The first authority to control grazing on the public domain came with the passage of the Taylor Grazing Act in 1934. However, the implementation of this Act, with adjudication of allotments and the limitations of livestock numbers, has been a slow and painful process and is still continuing today. The number of animals using the public range has continuously declined since records were first kept. Today, only about one-third of the total number of animal units are produced on the grazing lands as occurred in 1935.

"As the numbers of livestock have declined, the ranges improved. The amount of good and excellent range has not changed much since the first range assessments in 1935, but great improvement has been made in the poor and fair condition range. For instance, in 1935 over 58% of the ranges were in poor condition. By 1972 this amount had decreased to 32% and today even fewer ranges are in poor condition. This movement from poor to fair represents a significant and logical ecological step in the improvement of the western range. One would not expect ranges that had been deteriorated for half a century, especially low-producing ranges in extremely dry country, to move from poor to good or excellent within a period of a decade. The shift from poor to fair is a progressive step toward ultimate range improvement. In my opinion, much has been done in recent years to insure this range improvement."

In the interest of fairness, it is important to mention that BLM personnel have undoubtedly done a better job of range management in the field than is acknowledged in the DES. Consideration of the level of funding and consequent staffing leads one to the



conclusion that budgets of the BLM have always been small and personnel numbers inadequate. A report of the Council on Environmental Quality recognized this, stating -

"Even in the best of times, management agencies have not had an adequate number of trained range management professionals. We believe that the problem has been intensified rather than helped in recent years. For instance, economy moves have caused both the BLM and the U.S. Forest Service to combine grazing districts, ranger districts and forest. Each economy move means fewer people being asked to do more with less funds. In addition, qualified range people are being asked to do many non-range jobs because many times they are the best-trained ecologists on the staff."

On the subject of shortage of funds and paucity of personnel, Thadis W. Box, in the article herein before mentioned, has this encouraging comment to make:

"Given this program of benign neglect, what are the present conditions? It is my opinion that today the ranges of this nation are in the best condition that they have been in this century. I am concerned that many people are focusing on the few remaining sore spots in suggesting that the ranges of the west are generally deteriorating. This is not true. The speed with which improvements can take place is tied almost directly to the amount of input that we as a society are willing to make."

The comments contained in this analysis have for the most part tended toward the negative, although many positive statements do appear regarding the DES. Efforts of the personnel of BLM who functioned in the preparation of the DES are appreciated. It is

believed, however, that it is more important in this analysis to point out deficiencies than to supply compliments. All concerned are interested in aiding the production of a final document that is meaningful, defensible and fair with respect to all multiple-users of the public domain. It is unfortunate that the DES team did not include a livestock specialist who could call upon his own management experience within the area.

The absence of trend documented data has been heretofore mentioned. The lack of this information is deemed so important that further comment is indicated. The DES is replete with admissions that no detailed trend studies of the area have been made by BLM or any other governmental department. Trend must unequivocally mean a change in range condition between two or more points in time.

Several cycles of a grazing system and several years of favorable precipitation may be necessary to evaluate the success or failure of a management plan. No cycles were used by the authors of the DES and no reference was made to any documentation that would sustain a valid judgment. Estimates predominant. With this background, deficient because of lack of information, carrying capacities are nevertheless reduced within the ES area on an average of 54% with the Hualapai Peak Allotment being bludgeoned with a reduction of 88%.

No comment, suggestion or proposed plan of an individual allottee is to be found within the 187 pages of the DES. One is

17-14

17-14 (cont.) left with the clear and distinct impression that no rancher in the area, be he a first, second or third generation operator of a family ranch, has any reliable knowledge concerning either ranch management or livestock management on his own ranch. Obviously, a rancher is more interested in sound land and livestock management than any governmental department, as the ranch operation is a business of economics. His knowledge may well be the knowledge of himself, his father, his grandfather, and experienced neighbors and employees, produced through years of study within the four corners of the ranch, as opposed to that smattering of knowledge that may come from the four corners of a book.

The authors of the DES failed to recognize the fact that the rancher is the person most interested in the environment. He must be assured that his range is not over grazed. Finally, he is not going to purposely deplete the forage on his ranch so that he destroys his ability to produce income from the ranch any more than the factory owner would consider burning down his factory.

The DES proposes that the allottee of the Hualapai Peak Allotment should construct five more miles of fence. Fences create a hazard. It is believed that a real benefit would in fact occur to livestock and to wildlife if a considerable number of existing fences were removed, as opposed to the installation of additional fences. Cattle often get on the opposite side of fences, and when they do they die from a lack of water. Miners, sightseers, or

17-15 (cont.) hunters on occasion will cut fences or leave gates open, or gates may be shut without the rancher's knowledge and cattle then die of thirst. Fences obviously restrict the movement of cattle and wildlife, as they desire to move to satisfy their natural grazing needs. Wildlife are impeded by fences in their natural movements, and frequently are caught in the wire and die. It has been estimated conservatively that in areas where deer population exists, one buck each year will die for approximately every two miles of fence. The allottees within the ES area are aware that livestock must be permitted to move around on the range and grazing areas as is dictated by rainfall. It is believed that the cows know more about when they should move on to different areas of the range than man. Of course, some human judgment is needed in any operation, but if the natural desires of the cattle are not considered on a weekly or sometimes a daily basis, the livestock will become discontented and walk the fences when they are restricted. The dictates of the DES in connection with the imposition of unneeded improvements will take from the allottee the right to exercise his own judgment and his own discretion with respect to the operation of his business. His self-respect and integrity will be destroyed. Success does not stem from this type of a situation.

A county agent's view of the capacities of an allottee to manage his operation is well expressed in an article contained in



a 1977 issue of the Kingman Daily Miner and authored by County Agent Terry Kirkpatrick, wherein he commented:

"I would say these ranchers know more about what is going on out there on the land than anybody, because they are there every day and they see what is happening, and they are the ones who don't want to see this land hurt. They know it hurts their pocketbooks."

The checkerboard nature of the ES area and of course that of the Hualapai Peak Allotment area does not lend itself to text book approaches to land management. The allottees have long recognized this fact and have, with no real success heretofore, placed before BLM requests to exchange for purposes of blocking private land and public domain. If this were done, the public as well as allottees would benefit. Many of the problems of livestock grazing on the public domain, as referred to in the DES, would be entirely eliminated.

Although mention is made in the DES of the seriousness of the checkerboard problem and the obvious solution which is available, the DES does not actually treat the matter with attendant proposals as to a manner in which blocking of lands could be accomplished. The allottee of the Hualapai Peak Allotment has for many months had before the BLM an exchange proposal documented in writing and discussions orally have occurred with personnel of the BLM. It is noted that the summary of proposed multiple-use recommendations for the ES area made in connection with the adoption of a MFP have in several instances

17-16  
(cont.)

suggested that the BLM should develop a program to consolidate public lands in the planning area. It has further been stated in such summary that this proposal would facilitate resource management on public and private lands in the checkerboard ownership areas. Additionally, by specific recommendation, it has been proposed that by sale or exchange the BLM should dispose of 22,300 acres of small amounts of scattered public lands in 15 allotments to facilitate range management. And, further, it has been suggested that BLM acquire 21 sections in the planning area to facilitate the goal of maximizing species diversity in Burro Creek, and result in contiguous blocks of public land in the Antelope Wash, Dean Peak, and Hualapai Peak areas. With this background it is urged that the BLM expedite a procedure of processing exchanges on a prompt and equitable basis. The environment will be the winner.

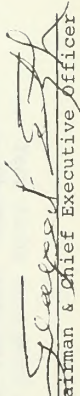
Although much of the comment contained in this analysis has been in disagreement with the contents of the DES, that section of the DES appearing on page 68 and entitled "Attitudes Toward Federal Land Management Agencies and Local Government Preferences" sets forth much that is accurate, even though it is regrettably so. Significantly, the DES contains frank admissions that a substantial portion of the public is displeased with Federal land management. Such sentiment, and the DES agrees, affords a strong basis for the growing popularity of the sagebrush rebellion. Citizens are imbued

with the fact that Federal agencies in the course of land administration have little regard for public opinion and the finger is pointed directly at the BLM with the admonition that it should become more accountable to local concerns, issues and opinions.

It has been previously suggested in this analysis that the mission of the BLM and others is obviously directed toward removal of livestock from the public domain. Ranchers and other large segments of the public, including the media, have recognized this approach. Be this the case, let us remember that the removal of food production is a step in total control; control the food of the country and you control its people. Let us be sensitive to the inherent characteristics of range land and resolve that livestock grazing will always be an important part of its use. The absence of livestock does not change range land into something else. Range is range and, with or without livestock, it produces water, wildlife, recreational opportunities, open space, esthetic amenities, scientific study areas, and other values.

The expertise of the rancher, acquired by experience in the ES area, is grounded in the man's management of range vegetation for use by livestock, wildlife and people. He is, in the simplest terms, an implied ecologist. His stewardship of the range land must not be ignored in the future.

Respectfully submitted,  
GLOBE CORPORATION

By   
Chairman & Chief Executive Officer

17-1

See Response 15-13. Apparent trend was determined and used for analysis purposes only. BLM's rangeland monitoring program will verify the apparent trend as determined by the rangeland inventory. Also see General Response 3, which addresses how monitoring will be used to adjust from initial stocking rates.

17-2

Inventory data show that grazing demands for forage exceed available supplies (see Response 13-8) and that rangeland condition is unsatisfactory. Continuous overstocking would further deteriorate rangeland condition and trend. BLM is thus justified in proposing a broad grazing management program to restore rangeland condition to a satisfactory level. The proposal is even more reasonable because specific actions are to be implemented only after thorough consultation with the range users and other parties familiar with the local area and with applicable range management practices. BLM would monitor the progress in achieving management objectives and would make further refinements when needed.

17-3

The total pounds of forage consumed by one cow for 1 month is roughly equivalent to the total pounds of forage consumed by four deer. The vegetation allocation considered the dietary overlap of all forage consumers (see Appendix 1-2).  
On ideal range, deer may be 80 percent browsers, and cattle may be 13 percent browsers. In the EIS area as a whole, deer and cattle are both primarily browsers (see draft EIS, page 50). Also see Response K-5.



- 17-4 Permanent study plots would be established to monitor trend in rangeland conditions and evaluate the effectiveness of grazing programs.
- 17-5 Under yearlong grazing, livestock seek preferred species and then turn to less desirable forage, grazing favorite areas and plants first (University of Arizona, 1978). Under alternative systems (e.g. rest rotation, high-intensity, low-frequency grazing, and the next-best pasture deferred-rotation), livestock concentrate within an area and more uniformly graze the range.
- When livestock are introduced to a new system, their performance at first declines as they adjust to the system. After the first year, however, most animals become accustomed to the system, and livestock performance increases above the previous level (Schmutz and Durfee, 1980). Recent experience in the Arizona Strip District revealed that allotments that followed prescribed grazing systems and that were stocked properly showed improvement in percent calf crops and an increase in calf weights (Hughes, 1980). See also Response 13-6.
- 17-6 See General Response 4.
- 17-7 BLM does not agree that applicable law condones the unrestricted use of another person's land without consent. According to the Arizona Revised Statute 24, Sec. 239, a person who stocks his land, intending for his livestock to feed on another person's land within an allotment is liable for trespass. If BLM authorizes the use of uncontrolled lands, BLM is a participant in the trespass and can also be held liable. The Arizona fence laws do not authorize willful trespass, nor do they afford immunity to those who, with intent, stock the range at a level that necessitates the grazing of lands belonging to others in disregard of property rights.
- 17-8 Reasons for the order of vegetation allocation to the three categories of grazing animals have been explained in Response 15-5. See also page 7 of the draft EIS, Purpose and Need for Action. FLPMA has required that BLM inventory the public lands to develop a sound basis for multiple-use management. In 1972, BLM based stocking rates on historical use because no inventory data existed. At the time stocking levels were set, other natural resources were not given specific allocations in the adjudication process. This shortcoming is resolved in the current proposal. Eliminating livestock grazing is not recommended in the proposed action.
- 17-9 The 228 AUMs allocated to big game under the proposed action and the elimination of livestock alternative reflect only that forage needed to sustain existing numbers of big game in the allotment, not the total forage available for their use. Increased allocations would not be needed until populations measurably increase.
- 17-10 See Response 17-11 and General Responses 1 and 3.
- 17-11 For clarification, the footnote is changed to read: "Only that portion of the Hualapai Peak allotment that is to be administratively managed as a BLM grazing allotment was surveyed. Thus a comparison cannot be made between the present allowable use and the proposed action as shown."

The Hualapai Peak allotment is divided into two areas by a fence that runs through I. 20 N., R. 16 W., Sec. 1; I. 20 N., R. 15 W., Sec. 6; T. 21 N., R. 15 W., Sec. 32, 28, 27, and 34. Approximately 36 sections are in the northern portion and 24 sections in the southern portion (4 of which encompass the Hualapai Mountain County Park). Since the northern section has no public lands administered by BLM, the area was not surveyed and is recommended for nonallotted status. Grazing would not be eliminated in this area. BLM simply would no longer be involved in its grazing administration. Grazing would continue to be authorized and administered by BLM on public lands in the southern area.

In Appendix 2-1, the present allowable use figure of 4,800 AUMs reflects public plus controlled lands for the entire allotment (northern and southern sections), which reflects the current situation. In the third column under Proposed Action, the 189 AUMs reflect only those lands in the southern section. Thus, a valid comparison cannot be made.

17-12 Costs for rangeland developments quoted in the EIS are projected to be borne by BLM. Opportunities for developing projects proposed or paid for by grazing allottees would be considered on a case-by-case basis.

17-13 Short-term reductions in livestock numbers are recommended to bring about long-term improvements in forage production and quality. The EIS acknowledges that in the short term many operators would be economically hurt by the proposal. Proper stocking rates and improved

grazing management, however, will ensure a dependable supply of forage in the long term, which is felt to be the key to stable livestock operations.

17-14 The rangeland management proposal calls for extensive consultation with each grazing operator before the formulation of specific plans and the issuance of decisions. See General Response 2 and paragraphs 6 and 7 on page 125 of the draft EIS for more explanation of what may be accomplished during this consultation regarding grazing use and management.

17-15 Rangeland developments identified by allotment in the draft EIS represent broad estimates needed to facilitate impact analysis. Specific proposals for developments will be identified during consultation with the allottee or during formulation of the allotment management plan. In either case, the grazing operator will have an opportunity to play a key role in planning for developments and management systems that affect his allotment.

17-16 We agree that land exchanges in the checkerboard areas will provide significant opportunities for improved resource management. Because of the large number of possible exchange transactions and the lack of specific proposals, the draft EIS could not address these recommendations individually. If approved during MFP Step 3, such land transfers, including the proposed exchange within the Hualapai Peak allotment, may then be rigorously pursued by BLM.



United States Department of Agriculture  
Soil Conservation Service

3008 Federal Building  
230 North First Avenue  
Phoenix, Arizona 85025

May 8, 1981

ARIZONA STATE OFFICE BULLHEAD MANAGEMENT	
MAY 12 1981	
SO	ASSOC. SO.
PROD. MGR.	PROD. MGR.
RESOURCES	RESOURCES
TECH. SER.	TECH. SER.
MONIT. SER.	MONIT. SER.
PHYS. THE. CHIEF	PHYS. THE. CHIEF
CF	CF
SEE ME	SEE ME
DATE	DATE

Clair M Whitlock  
Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Dear Clair:

The following are our comments on the draft Hualapai-Aquarius Grazing Environmental Impact Statement:

- 1. Page 2, Column 1, Para. 5 -- This paragraph mixes various information on the proposed action and other alternatives. It is difficult for the reader to differentiate between the specific impacts. For example, the third sentence states, "Woody plants, however, would remain in poor condition due to concentrated use by grazing animals." To which alternative does this statement apply? If it applies to the proposed action, and if the assumption is correct, then this creates a serious problem for management of the area, because browse provides a high percentage of the forage to both livestock and wildlife in the area. This paragraph should be clarified.
- 2. Page 2, Column 2, Para. 2 -- There is inadequate data to support the assumption that the alternatives would decrease soil compaction. The only soils that are sufficiently moist and clayey to be subject to soil compaction are in soil associations 3, 4, 7, 8, 11, and 12. The clayey soils in these associations represent only about six percent of the EIS area.
- 3. Page 2, Column 2, Para. 3 -- Again the percent of soils with sufficient moisture and clay content to affect soil compaction, water infiltration rates, and water retention, is small.
- 4. Page 3, Column 1, Para. 2 -- I disagree with the statement, "Riparian habitat quality would continue to degrade under all alternatives except wildlife enhancement and elimination of livestock grazing." More intensive livestock grazing management utilizing periodic scheduled deferrals and moderate stocking will not only stabilize riparian habitat, but will improve habitat quality.
- 5. Page 3, Column 2, Para. 3 -- This paragraph is very confusing. It is stated that "initial reductions in stocking levels under the proposed action, moderate grazing management, and wildlife enhancement would reduce livestock grazing by 53, 58, and 63 percent, respectively, from authorized grazing preference." Can it be assumed that, if grazing is reduced 53% under the proposed action, grazing would be allowed at 47% of the authorized grazing preference? The next sentence states, ".....increased forage would allow stocking levels to rise to the following percentages of authorized grazing preference: proposed action -- 38 percent; moderate grazing -- 51 percent; and wildlife enhancement -- 50 percent". Stated livestock stocking levels under the proposed alternative do not rise, but fall from 47 to 38 percent. Please clarify this statement.

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is an agency of the  
Department of Agriculture

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10-79

- 6. Page 7, Column 2, Para. 1 -- In the next to last sentence, I suggest that the word "apparent" be inserted before the word "trend". Range trend can only be evaluated over a period of years from fixed points or plots. These statements appear to be professional judgements and should be stated as apparent trend.
- 7. Page 10, Column 2, Para. 2, Number 2 -- It is questionable that soil compaction is of enough significance to warrant analysis. Similar statements concerning soil compaction occur on Pages 73, 74, 91, 98, 107, and 118. Soil compaction is a reality in corrals, around watering and feeding sites, and on trails. For the bulk of the rangeland, the soils of the desert are too dry and the cattle are too dispersed to have the soil compaction indicated in the EIS.
- 8. Page 16, Column 1, Para. 2 -- I question the need to reduce livestock by 54 percent. This is an excessive amount and will create severe economic problems for the affected ranchers. By implementing an intensive system of grazing utilizing regular deferrals, range condition can be improved with a much less severe reduction in stocking.
- 9. Page 18, Column 2 -- Why were more intensive type grazing systems not presented as alternatives? Other alternatives such as High Intensity--Low Frequency, "Cell", and other more intensive forms of livestock grazing management will cause a much more rapid increase in range condition than conventional systems. In many cases, a higher stocking rate can be maintained.
- 10. Page 20, Column 1, Para. 4 -- The third sentence states, "Alamo Crossing and Chino Springs allotments are proposed for ephemeral designation because of their low forage production." I suggest the addition of the word "perennial" between "low" and "forage". In some years, ephemeral production can be very high in these areas.
- 11. Page 21, Rangeland Development Summary -- Do these costs include needed improvements on private and state lands? Some improvements are necessary on these lands to fully implement the management program.
- 12. Page 21, Rangeland Development Summary -- The 1981 costs for pipelines and fencing seem excessive to us. The pipeline computes to \$8500 per mile, or \$1.61 per foot. Average costs for PVC 1 1/2" pipelines were \$0.50 per foot, or \$2640 per mile in 1980. Your costs are adequate for galvanized metal pipelines, but PVC pipe is equally acceptable in most cases. Fencing computes to \$4500 per mile. Average costs in 1980 were \$2500 per mile.
- 13. Page 23, Column 1, Paragraph 2 -- What is meant by "grazing cycle", when it is used on continuously grazed range? In the example in Allotment A, you showed an 80% utilization figure. Shouldn't forage and stocking rate be adjusted more closely initially and monitored more closely to prevent the range from reaching 80 percent utilization.
- 14. Page 29, Column 2, Para. 1 -- The last sentence states, "Livestock grazing would be discontinued in the Burro Creek allotment to allow recovery of riparian habitats....." This is only one alternative. An intensive rotation grazing system will also allow riparian vegetation to improve.

18-6

18-7

18-8

18-9

18-10

18-11

18-12

18-13

18-14



15. Pages 46 and 47, Table 3-5

Soil Association 4 - Soil components total 105%.

Soil Association 10-13 - In general, the frost-free days for soil with a mesic temperature regime have a maximum of about 180 to 200 days. For frigid soils, the maximum is about 120 days. I suggest the following:

Soil	Frost-free Days
Faraway	140-180
Frees	80-120
Luzena	160-200
Cabazon	120-150
Barkerville	140-200

18-15

Soil Association 10 - The hydrologic soil group for Faraway should be D. Soil Association 10 - Add a footnote #8 after the Frees series. The footnote should read, "The soil series name is a field name. The name has not been reserved and the series concept has not been completely reviewed."

16. Page 49, Column 2, Para. 3 - The second sentence states, "Annual water consumption requirements for livestock, big game, and wild burros in the EIS area amount to 4, 30, and 5 acre feet, respectively, totalling 39 acre feet." 4 acre feet total 174,240 cubic feet, or 1,306,800 gallons. Consumptive use of livestock is 10-15 gallons per day per animal unit, or 3,600 to 5,400 gallons per animal unit per year. This converts to only 242 to 363 animal units per year, which is much too small for the EIS area.

18-16

17. Page 69, Column 2, Para. 5 - I agree that a reduction in livestock grazing and adjustments in forage allocation will cause an increase in total herbage production, but grazing pressure will continue to be concentrated on the most palatable species. The increase in production will be from lower quality plants with only minimal improvement in range condition. To achieve improvement in production of higher quality plants and range condition, a planned grazing system with adequate water developments, fencing, and defements must be implemented.

18-17

18. Page 70, Column 1, Paragraph 1 - This paragraph cites "pertinent" research literature. Is it pertinent to Arizona? Is it pertinent specifically to the Hualapai-Aquarius? Was the research carried out long enough to be conclusive for all ranges everywhere with differing ecological conditions, plant species, soils and precipitation?

This paragraph states that grazing systems caused a 13 percent increase in vegetative production. There seems to be insufficient data to reach a conclusion on vegetative changes because of implementation of grazing systems. Each type of grazing system will react differently concerning changes in vegetative production if other variables remain equal. This paragraph implies that implementation of any grazing system causes only a 13 percent increase in vegetative production. This statement is misleading. This paragraph also states, "If livestock use is reduced from heavy to moderate levels at the same time a grazing system is implemented, the reduced allocation would be expected to account for 73 percent of the herbage response and grazing systems for 27 percent of the response."

18-18

18-18 (cont.) This statement is greatly simplified and completely misleading. Vegetative response is extremely variable, depending upon range condition, type of grazing system, climatic variation, and many other influences. In addition, the effects of reduction in livestock numbers and implementation complement each other in terms of vegetative response. They do not react on a linear basis.

19. Page 70, Column 1, Para. 3 - The statement, "An allotment with 1,000 acres of Joshua tree vegetation type in fair condition would produce 100,000 pounds of usable forage (1,000 acres X 100 pounds = 100,000 pounds of usable forage per acre)" is incorrect. Delete the words "per acre" at the end of the sentence.

18-19

20. Page 70, Column 1, Para. 4 - We disagree with the statement ".....since grasslands have an abundance of key species." Grasslands normally have only one or two key species for management purposes, but they may have several relatively minor species which are utilized at various times and conditions during the year.

18-20

21. Page 70, Column 2, Para. 4 - The key species will increase, given the minimum rest requirement, but that increase will be very slow under the grazing system described. Other types of more intensive grazing systems will generally allow more rapid improvement, even with a heavier stocking rate.

22. Page 73, Column 1, Paras. 1 and 2 - Paragraph 1 states, ".....livestock would continue to heavily graze riparian areas and heavily utilize desirable riparian vegetation, such as willows and grasses." Paragraph 2 states, "Woody plants, though, would continue to be grazed too heavily to reproduce." Both of these problems could be corrected through the use of more intensive planned grazing systems. Also, why would improved livestock distribution, reduced grazing pressure, range developments, vegetation allocation, and deferment only slightly improve vigor and production of herbaceous plants. Is this based upon research and monitoring that BIM has conducted on range management in Arizona? We have found that range improvement is generally more dramatic than "slightly".

18-21

23. Page 73, Column 1, Para. 3 - In the AMP on each allotment, why not require that livestock be removed when the ephemeral vegetation is gone?

18-22

24. Page 76, Column 1, Para. 6 - A smaller adjustment in livestock numbers and more intensive grazing management will also bring grazing into line with the stocking rate of the range. The stocking rate (or carrying capacity) should not be static, but must fluctuate as the forage resources fluctuate.

18-23

25. Page 78, Column 1, Para. 9 - Again, a more intensive planned grazing system, with monitoring, will correct the problem of heavy grazing on riparian areas.

18-24

26. Page 83, Column 2, Para. 6 - Intensive High Intensity-Low Frequency or "Cell" grazing systems would decrease overall labor requirements, instead of increasing them.

18-25

27. Page 117, Column 1, Para. 4 - Following elimination of grazing, the vegetation would begin to move toward climax for a time. However, the vegetation would gradually become decadent and static. Some grazing is needed to stimulate growth.

28. Page 122, Column 1, Para. 3 - We disagree with the statement that 98 percent of the riparian areas will be improved from poor to good, fair, or excellent condition. Even without livestock grazing, wildlife and feral burro concentrations will keep some of the land in poor condition.

18-26



APPENDIX 3-2  
SOIL SERIES CLASSIFIED ACCORDING TO CURRENT SYSTEM OF CLASSIFICATION

- 5 -

18-27 | 29. Page 129, Column 2, Para. 3 - The forage allocation on annuals (ephemerals) is very low. Removal of 10 percent of the annual forage is very light grazing. In most cases when annuals are actively growing and even somewhat dormant, livestock will utilize perennial vegetation to only a minor extent, irregardless of whether annuals are lightly or moderately grazed. Therefore, in wet years, when there is a flush of annual growth, the perennial forage plants would be used very little during the spring grazing period. The annual forage could be effectively used without damage in perennial vegetation. I suggest a method of grazing annuals similar to the one in effect in the Mediterranean climate in California. The annual production is highly variable, as in the Arizona deserts, but criteria have been established where prescribed amounts of litter and residues are left in pastures for site enhancement and soil protection. For example, a steep erosive site may require 250 lbs/acre of litter and residue. A less erosive area might only need 100 lbs/acre. If it is a dry year and these sites do not produce the minimum residues, then grazing is not done. This system would be responsive to the resource and far more equitable to the permittee.

18-28 | 30. Page 168, Appendix 3-2 - Corrections are noted on the attachment.

Thank you for the opportunity to comment. If you need additional information, please call Don Gohmert, at 261-6711.

Sincerely

91

*D. Miles Glasgow* Acting for

Thomas G. Rockenbaugh  
State Conservationist

cc: Norman Berg, Chief, SCS, Washington D.C.  
Charles F. Lemon, Director, WTSC, Portland OR  
Don Gohmert, SRC, SCS, Phoenix AZ

Attachment

↓ The soil series name is a field name. The name has not been reviewed and the series concept has not been completely reviewed 168

Series	Family	Subgroup	Order
Abra	Fine-loamy, mixed, mesic	Ustollic Calcicorthids	Ustisols
Anthony	Coarse-loamy, mixed (calcareous), thermic	Typic Torrifluvents	Entisols
Arizo	Sandy-skeletal, mixed, thermic	Typic Torriorthents	Entisols
Barkerville	Sandy-skeletal, mixed, mesic	Typic Ustorthents	Entisols
Cabazon	Clayey, montmorillonitic, mesic	Lithic Argiustolls	Mollisols
Cave	Loamy, mixed, thermic, shallow	Typic Paleorthids	Ustisols
Caveit	Loamy, mixed, hyperthermic, shallow	Typic Paleorthids	Ustisols
Cellar	Loamy-skeletal, mixed, nonacid, thermic	Lithic Torriorthents	Entisols
Continental	Fine, mixed, thermic	Typic Haplargids	Ustisols
Ebo	Clayey-skeletal, mixed, thermic	Typic Haplargids	Ustisols
Faraway	Loamy-skeletal, mixed, mesic	Lithic Haplustolls	Mollisols
Frees	Loamy-skeletal, mixed, mesic	Lithic Haploborolls	Mollisols
Gadde	Fine-loamy, mixed, mesic	Ustollic Haplargids	Ustisols
Hayhook	Coarse-loamy, nonacid, thermic	Typic Torriorthents	Entisols
House Mountain	Loamy, mixed, nonacid, thermic	Lithic Torriorthents	Entisols
Latene	Coarse-loamy, mixed, thermic	Typic Calcicorthids	Ustisols
Lont	Fine, mixed, mesic	Ustollic Haplargids	Ustisols
Luzena	Clayey, montmorillonitic, mesic	Lithic Argiustolls	Mollisols
Pastura	Loamy, mixed, mesic, shallow	Ustollic Paleorthids	Ustisols
Rillito	Coarse-loamy, mixed, thermic	Typic Calcicorthids	Ustisols
Rillito	Coarse-loamy, mixed, hyperthermic	Typic Calcicorthids	Ustisols
Schenco	Loamy-skeletal, mixed, shallow	Typic Camborthids	Ustisols
Springerville	Fine, montmorillonitic, mesic	Udic <del>Typic</del> Chromusterts	Vertisols
Thunderbird	Fine, montmorillonitic, mesic	Arctic Argiustolls	Mollisols

- 18-1 The statement applies to the proposed action. The final EIS has been changed accordingly. In this paragraph we are discussing woody species (overstory) such as cottonwoods and willows, which are common to the riparian zones of the EIS area.
- 18-2 We agree. Language is changed in the final EIS to show that compaction is confined to clayey soils. Clayey soils are important in the EIS area, since they produce a large portion of our perennial grasses.
- 18-3 We agree. Language is changed accordingly in the final EIS.
- 18-4 Improvement in riparian habitats can be projected only when specific measures leading to this improvement have been identified. See General Response 2.
- 18-5 See Response 15-22.
- 18-6 "Apparent" has been inserted before "trend" in the final EIS.
- 18-7 We agree that impacts on compaction are local and confined primarily to certain soil associations. Language is added to the final EIS to clarify this matter. The generally brief coverage in the draft EIS adequately reflects its lack of high significance. See General Response 3.
- 18-8 Specific grazing systems will be developed during the preparation of AMPs during a 5-year period following the filing of the final EIS. Grazing systems would be developed by incorporating the grazing treatments discussed on page 18 of the draft EIS. Also see General Response 1.
- 18-10 We agree. The text is changed accordingly.
- 18-11 The rangeland development summary shows improvements needed on Federal land for implementation of intensive grazing systems.
- 18-12 The pipeline and fencing costs were derived from the latest contract bids received by BLM. Much of the EIS area is rugged and inaccessible, leading to higher costs. Some developments may be constructed at lower costs through cooperative agreements with individual livestock operators, but we cannot project which developments may be so constructed. Average contract costs are thus used as a basis for estimates.
- 18-13 A grazing cycle refers to the completion of grazing of one or more pastures in a given amount of time before cattle are returned to the starting pasture. In a continuously grazed pasture, the grazing cycle may be on a yearly basis before spring rains.
- 18-14 We agree. Rotational grazing systems are proposed under the proposed action. Several alternatives for riparian habitat recovery will be considered.
- 18-15 The error is corrected by reducing soil inclusions to 10 percent. Frost-free days for the Faraway, Frees, Luzena, Cabezon, and Barkerville soils were taken from SCS soil interpretation sheets and should be adequate for this analysis.
- The hydrologic soil group for the Faraway soil is changed accordingly.
- A footnote to that effect is added to the final EIS.
- 18-16 The text has been corrected to read "livestock consume 68 acre-feet, burros consume 5 acre-feet, and wildlife consume 4 acre-feet."



- 18-17 See pages 15 to 18 of the draft EIS for discussion of the grazing systems and developments called for under the proposed action.
- 18-18 Van Poollen and Lacey (1979) conducted literature reviews of grazing systems from different regions of the western United States. Their conclusions generally apply to western ranges and were included in the EIS only to show the reader the relative impact of grazing systems on vegetation production versus the impacts of proposed stocking adjustments. Responses on different allotments would likely show great variation.
- 18-19 The words "per acre" have been deleted.
- 18-20 Although the grassland type may have only one or two key species, forage production from the key species would significantly increase as a result of the proposed action.
- 18-21 Unless the intensive livestock management includes repeated rest of the riparian corridor, riparian areas will continue to suffer from concentrations of livestock seeking abundant shade and water. See General Response 2.
- 18-22 Normal procedures would require livestock to be removed before ephemeral vegetation is no longer useful or available. This paragraph is deleted in the final EIS.
- 18-23 See page 23 of the draft EIS under Administration for a complete explanation of flexibility for the livestock operators.
- 18-24 See General Response 2 for a complete discussion of the riparian habitat.
- 18-25 Specific grazing systems have not yet been developed in the EIS area.
- 18-26 Burro concentrations would be significantly reduced even under elimination of livestock grazing. BLM recognizes that not all riparian areas can be fully vegetated, because restricted canyons and channels will continue to be scarred during floods. Such areas are not considered to have improvement potential.
- 18-27 Utilization of ephemeral forage will be limited to 50 percent of the current year's annual growth under ephemeral licenses. Utilization of ephemerals may also be high on perennial allotments. In estimating forage production to arrive at initial stocking rates, BLM used 10 percent of the annuals on excellent condition range during unfavorable years. This conservative figure was used to prevent overutilization of key species when ephemeral production is low.
- 18-28 Corrections have been made as noted.

19

BRUCE BABBITT, Governor

Commissioner  
G. GENE TOLLE, Phoenix, Chairman  
J. G. BECK, Phoenix  
CHARLES F. ROBERTS, JR., Yuma  
FRANK FERGUSON, Phoenix  
FRANCIS W. WERNER, Tucson

Director  
ROBERT A. JANTZEN  
Deputy Director  
ROGER J. GRUENEWALD



ARIZONA GAME & FISH DEPARTMENT

22222 West Gateway Road Phoenix, Arizona 85023

May 11, 1981

ASSN. NO.	942-5000
FILE NO.	942-5000
REC'D	MAY 12 1981
RESOURCES	
VEGET. SEC.	
WATER	
WILDLIFE	
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BY	
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SEE ME	
INITIALS	
DATE	

Mr. Clair M. Whitlock  
Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Dear Mr. Whitlock:

The Arizona Game and Fish Department has reviewed the Draft Grazing Environmental Impact Statement (DEIS) for the Hualapai-Aquarius Planning Area. We eagerly welcome and support the implementation of a grazing management program within the Planning Area, and we compliment the preparing team on their thoroughness in preparing the Draft.

In general, the Department supports the conclusions of the DEIS; however, we would like to offer specific comments on some portions of the text.

Page 7, PURPOSE AND NEED FOR ACTION, Paragraph 5:

According to Appendix 1-1, BLM condition classes are based on the percentage of climax plants in the community as well as the measure of current plant production. Although this is the standard method for determining range condition, we feel that there may be a potential for confusing the quantity of forage with the quality of forage. As plants mature, the amounts of protein, phosphorus, and carotene decrease, rendering the plant less nutritious (Laycock and Price, 1970). In climax plant communities such as the over-mature chaparral communities within the EIS area, the low nutritional quality of the forage may not be sufficient to meet the energy requirements of wildlife and livestock, even though the percentage of climax species in the community is high. The DEIS does not specify whether this potentially important factor was adequately addressed while determining range condition.

Page 34, MEASURES FOR RESOURCE ENHANCEMENT, Number 16, Paragraphs 2, 3, and 4:

We recommend the elimination of the phrase where feasible from all 3 of these paragraphs. Instead, these paragraphs should

Mr. Clair M. Whitlock

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19-2  
(cont.)

include a discussion of the criteria that will be used to determine what is and what is not feasible in each of the three instances.

Page 54, Federally Listed, 4th paragraph from top of page:

The first sentence of the paragraph states that the desert tortoise occurs primarily in four areas; however, map 2-2 on page 30 depicts six areas of crucial habitat.

In the same sentence, the statement is made that the desert tortoise is "listed by AG&FD as threatened". In order to avoid confusion with the federal "endangered" and "threatened" classifications, the Department uses the word "Group" followed by a Roman numeral to classify the threatened and unique wildlife of Arizona. Therefore, the word threatened should be replaced by the term Group III. Likewise, in the first paragraph under the heading State Listed, the word threatened should be replaced by the phrase Groups II, III, and IV.

In order to clarify the classifications of state-listed wildlife, we suggest that the following table be added to the text:

Arizona State-Listed Wildlife Occurring in the EIS Area

Group II. Species or subspecies in danger of being eliminated from Arizona.

Peregrine Falcon (Falco peregrinus anatum)  
Gilberts Skink (Eumeces gilberti)

Group III. Species or subspecies whose status in Arizona may be in jeopardy in the foreseeable future.

Spotted Bat (Euderma maculata)  
Great Egret (Casmerodius albus egretta)  
Snowy Egret (Egretta thula brewsteri)  
Black-crowned Night Heron (Nycticorax nycticorax hoactle)  
Zone-tailed Hawk (Buteo albonotatus)  
Black Hawk (Buteogallus a. anthracinus)  
Desert Tortoise (Gopherus agassizi)  
Gila Monster (Heloderma suspectum)

Group IV. Species or subspecies of special interest because of limited distribution in Arizona.

Sonoran Mountain Kingsnake (Lampropeltis pyromelana)



Mr. Clair M. Whitlock

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May 11, 1981

Also on page 54, in the first paragraph under the heading State Listed, the observation is made that the State-listed Bald eagle is found in the EIS area. Although Southern Bald Eagle (*Haliaeetus leucocephalus leucocephalus*) is listed as Group II by the Department, we have no data to indicate whether the bald eagles that winter in the EIS area are members of this race or of the northern race, *Haliaeetus leucocephalus alascanus*, which is not state-listed.

Page 73, Riparian Vegetation, Paragraph 2:

The last sentence of this paragraph states that under the Proposed Action, "Woody plants, though, would continue to be grazed too heavily to reproduce." However, on Page 34 in the list of standard protective measures for rangeland program implementation, Item 17 calls for "actions to provide for broad-leaf tree reproduction and long-term enhancement" of riparian habitats. On Page 79 of the text, under the heading Riparian Habitat, the statement is made that the components of the Proposed Action alone would not meet the BLM's objectives for protection of riparian ecosystems. However, the Draft fails to identify what additional measures will be taken under the Proposed Action to insure the continued reproduction of broadleaf trees in riparian habitats.

Five avian species (Black Hawk, Zone-tailed Hawk, Snowy Egret, Great Egret, and Black-crowned Night Heron) listed by the Department as Group III, as well as the federally listed Bald Eagle, are dependent on woody riparian vegetation found within the EIS area for nesting and roosting habitat. The Department is extremely concerned that these sensitive species might be eliminated from the EIS area if the current trends in riparian habitat degradation are not reversed.

For the above-mentioned reasons, the Department cannot support the Proposed Action, but instead supports the Wildlife Enhancement Alternative. Were it not for the lack of protection of riparian habitat, we would be willing to support the Proposed Action, as we are not insensitive to the economic burden that would be placed on livestock operators within the Planning Area under the Wildlife Enhancement Alternative.

Mr. Clair M. Whitlock

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May 11, 1981

Thank you for providing us the opportunity to comment on this Draft Grazing Environmental Impact Statement.

Sincerely,

Roger J. Gruenewald, Deputy Director



Richard A. Gerhart  
Acting Habitat Evaluation Specialist  
Kingman Regional Office

RAG:dd

cc: Planning and Evaluation Branch, Phoenix  
Arizona State Clearinghouse AZ 81-80-0023

References Cited

Laycock, W. A. and D. A. Price. 1970. Environmental Influences on nutritional value of forage plants. In: Range and Wildlife habitat evaluation, a research symposium. U.S.D.A., For. Serv. Misc. Pub. No. 1147. 220pp.

19-1 Browse in the chaparral will usually remain high in protein, phosphorus, and carotene but may be low in energy-related nutrients. Seasonal fluctuations may cause grasses to vary from low to high in energy-related nutrients. Thus, ranges supporting a mixture of shrubs and grasses are considered to be good range.

Methods for determining range condition do not consider quality of forage, even though nutritive quality is important for animal production. Most plants are seasonal and are more nutritious and palatable at particular times of the year. In most climax plant communities, forage plants will hold their own with minor fluctuations in losses and reestablishment of climax plants. As the range moves towards climax, a mixture of young and old plants will offset deficiencies in nutrients.

19-2 The feasibility of these measures is to be determined by the interdisciplinary resource team identified in Measure 1 (page 33, draft EIS). Since these measures reflect Arizona BLM policy, feasibility evaluations will determine the exceptions rather than the rule. Factors such as wildlife needs, physical constraints, and benefit-cost analyses will provide the criteria.

19-3 The author had grouped adjacent areas for convenience in the narrative. The text has been changed to avoid confusion. Minor changes to the text are made to clarify status of State-listed species, and the table is included in its entirety.

19-4 Recent surveys (February 1981) of bald eagles along the Burro Creek drainage revealed large and small adult bald eagles using the area. Although not confirmed, the smaller eagles could be southern bald eagles, since they are slightly smaller than the northern subspecies.



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# National Audubon Society

WESTERN ENVIRONMENTAL SCIENCE PROGRAM,  
620 MILLER COURT, LAKEWOOD, COLORADO 80215 (303) 232-9493

May 5, 1981

Mr. Clair M. Whitlock  
Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Dear Mr. Whitlock:

Enclosed are the National Audubon Society's comments on the Hualapai-Aquarius Draft Grazing EIS. We very much appreciate this opportunity to contribute to management of this segment of the nation's public lands.

The Society has long been concerned about the often poor, or deteriorating, condition of the western public range, and in particular the degradation of scarce and valuable riparian habitats. We strongly supported passage of the Federal Land Policy and Management Act of 1976, which gave BLM the authority to manage these lands in the long-term public interest. The Act also acknowledged the Bureau's responsibility to a broad public constituency, including not only those who use public lands for direct economic purposes but also people who observe and enjoy the open space and wildlife resources. The Bureau can best meet its responsibilities by taking immediate measures to eliminate over-grazing and institute biologically sound livestock use programs.

The remnant wildlife populations on BLM lands are an invaluable public resource which has suffered long years of neglect. Many of these species depend to a greater or lesser extent upon the ever-windling riparian habitats. For this reason, our comments focus on the degree of protection which each alternative gives to this vital habitat type.

We commend you and your staff for proposing, in this EIS, the first steps towards better management of the public domain, and we look forward to working with the Bureau further to protect and enhance this important national resource.

Sincerely yours,

Pauline D. Plaza  
Biologist

Comments on the Hualapai-Aquarius Draft Grazing EIS

National Audubon Society

May 5, 1981

### General Comments

The National Audubon Society enthusiastically supports several aspects of the draft grazing EIS for the Hualapai-Aquarius management area. The most important is the Bureau of Land Management's (BLM) proposal to reduce stocking rates and utilization of forage plants; forage utilization would drop to 50% of the annual production in the Proposed Action, to 45% and 40% in the Moderate Grazing Management and Wildlife Enhancement alternatives, respectively.

We also fully approve the Bureau's plans to institute scientifically-based grazing management on the major part of the lands it controls in the EIS area. This is an important first step in decreasing soil erosion, improving vegetation conditions, and restoring wildlife habitat. Even more important is the stated intent to monitor the results of these grazing programs and alter patterns of livestock use as necessary to protect vegetation, soils, wildlife and watershed values. Such a feedback system is absolutely necessary for intelligent range management. In short, the EIS acknowledges the BLM's broad responsibilities to protect and enhance national resource values, a development for which the Society has worked for many years.

However, we are dismayed to find that riparian habitats get short shrift in the EIS. These are the scarcest, and the most productive, wildlife habitats in the Southwest; as such they should be the prime targets of any grazing management program. They constitute a priceless natural heritage. The Proposed Action

ARIZONA STATE OFFICE BUREAU OF LAND MANAGEMENT	
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SD	FILE
ASSISTANT	FILE
PUR. EFF.	FILE
REC. MGMT.	FILE
PER. TRNG. CTR.	FILE
CF	FILE

completely neglects the preservation and enhancement of such areas, despite the evidence from, for example, studies underway in the Tonto National Forest that unprotected riparian habitats degenerate into barren, rock-lined streambeds.

Of the four alternatives to the proposed action, two either allow continued deterioration of riparian zones or merely maintain the present, unacceptable status quo. Of the two that would result in improvement of the riparian habitat, one - complete elimination of livestock grazing - is politically unrealistic.

We want to stress here that livestock grazing on the public lands is a privilege, not a right. While grazing permittees are the immediate users of these lands, they are only part of the public whose property such lands are.

The public domain belongs to all the people of the United States, and their interests must be represented in the management process. The national interest in fish, wildlife, vegetation, soils, watersheds - in short, in the entire natural community - must be protected.

Discussion of Alternatives

I. Proposed Action: As written, this alternative is unacceptable for reasons outlined below.

- While its adoption would bring scientifically-based grazing management to most lands under ELM's control, the area's invaluable riparian habitats would remain completely unprotected. Stocking rates would indeed be reduced, but even a few cows concentrating in riparian areas can severely damage vegetation. ELM has admitted this fact in several places: "Riparian habitat quality would not improve due to continued heavy grazing on the palatable vegetation along water courses ." (p. 79); "Young cottonwood, willow and ash trees would not become established to replace old trees" (p. 79); "Riparian habitat quality would continue to decline along present trends " (p. 81). Fencing of riparian zones from livestock use, or other conservation practices which could be used to

protect and enhance this habitat type, are lacking in this alternative. We urge that this oversight be corrected.

From various comments in the EIS, it would also seem that the Proposed Action would not improve forage and habitat conditions in other habitat zones either. The EIS states that "Nonintensive grazing management on over 20,000 acres . . . would decrease forage production" and "Wildlife habitats would generally continue to decline on these allotments" (p. 81). Admittedly some allotments scheduled for nonintensive and ephemeral use contain relatively little public land; but we question whether continued deterioration is acceptable in any case. Even on the intensively managed allotments, the EIS admits, "the perennial-ephemeral designation, however, would adversely affect habitat in 24 allotments" (p. 79), and "Significant habitat improvement cannot be predicted for rest treatments on intensively managed allotments under the proposed action" (p. 79). We agree - and we question whether only two years of rest for these allotments (one year of complete rest, one of deferred grazing) will be enough to improve range in poor to fair condition. We suspect that in severely deteriorated areas, many more years of rest are required.

Since the intensively managed allotments are the very areas where ELM should be able to effect "significant habitat improvement", we wonder whether the benefits to wildlife, soils, vegetation and water resources outlined in pp. 71-79 have a solid basis in fact. Will forage production rise, as ELM claims, from 441,483,783 pounds per year to 460,530,083 pounds per year, over 20 years?

Evidently it is the perennial-ephemeral grazing system that will prevent substantial range improvement, although this is not made clear in the EIS. We suggest that, if this is the case, another system be adopted, one that will allow overgrazed habitats to recover. One alternative might be to eliminate ephemeral grazing, even in wet years, to allow the vegetation to recuperate.

20-1

20-2

20-3



20-3 We urge that the final EIS consider this or other options, and that a clear  
(cont) discussion of the perennial-ephemeral grazing system be included under the Proposed Action.

Given the pessimistic prognosis for range improvement under this alternative, we question the ultimate effectiveness of the Proposed Action. If no habitat improvement will result, why should taxpayers' monies be spent to implement it? Why is BLM proposing its adoption?

A major disadvantage of the proposed action is that the planned water developments would "significantly extend the range of livestock into areas that have previously been only lightly grazed" (p. 81). Such a development would definitely harm bighorn sheep, which compete with livestock for food, and probably also adversely impact elk. The survival of such species has been aided, to some extent, by the very fact that livestock have not extensively invaded some parts of their habitat. In addition, fencing required under this alternative could adversely affect pronghorn antelope and bighorns.

II. Continuation of Present Grazing Management: This alternative is completely unacceptable. Most of the public rangeland would continue to decline in quality and, in particular, the valuable wildlife habitat in riparian zones would be completely destroyed. Water quality would decline, soils would erode, and the land would eventually become useless. The alternative perpetuates the present scientifically and biologically unsound system of grazing. Its adoption would be contrary to the national interest.

III. Moderate Grazing Management: This alternative calls for allowing year-long grazing at stocking rates that will utilize 45% of the available forage produced annually. In describing the environmental consequences, the Bureau asserts that yearlong grazing with appropriate stocking is equally as good for

the range as rest/rotation or other systems (p. 97). Only one citation is given in support of this statement. This is a controversial assumption, and we urge that a more detailed analysis, supported by much more data, be included here. In particular we would like to see an analysis of why, if yearlong grazing with appropriate stocking can produce the same benefits as rest/rotation grazing systems, the BLM prefers rest/rotation. Also, what are "appropriate stocking levels" in this context? How would they change from year to year?

Like the Proposed Action, this alternative will not protect priceless riparian habitat, and for this reason we find it unacceptable.

IV. Wildlife Enhancement Alternative: This alternative is essentially the same as the proposed action, with several important differences: new livestock developments would not be built in crucial big game habitat, livestock grazing would be eliminated in selected riparian zones; forage utilization would be cut to 40 of annual production; and ephemeral grazing would be eliminated on 16 allotments to protect desert tortoise critical habitat.

Since this alternative provides protection for riparian habitats and would impact local ranching operations "no more than the proposed alternative" (p. 87), we much prefer it to the latter. As described, it would not expand livestock grazing into areas now enjoying little such use and would allow the regeneration of valuable riparian habitat in the Ocotillo Wildlife Area, the Burro Creek allotment, and other riparian zones. Such actions would benefit the recovery of a variety of habitats and a broad spectrum of wildlife.

However, perennial-ephemeral grazing would still be permitted on 12 allotments scheduled for intensive management. This practice seems questionable in light of the comments quoted in the discussion of the Proposed Action.

V. Elimination of Livestock Grazing: Given the poor condition of much of the range in the EIS area, this would be the wisest policy to follow. It is, however, politically unrealistic and would probably cause more problems than BLM could handle - livestock trespass, for example. Therefore, we have not given this alternative much consideration, though it would benefit the soils, vegetation and wildlife of the area more than any other alternative, and best respond to the national interest in the public lands.

Summary

In terms of the management objectives listed in Chapter 1, the Proposed Action falls both to respond to perceived needs and to conform to the specified purposes. It will not "improve water quality in the Burro Creek and Big Sandy watersheds" (#2); will not "improve and protect fish and wildlife habitat on public lands" (#7); will not "improve and protect riparian communities" and "stabilize downward trends" (#8); and will not "preserve and improve protected plant and animal species" - especially the bald eagle and peregrine falcon, endangered species which depend on riparian habitats for food and roosting sites. Nor will the proposed action likely ensure "the long-term stability of livestock operators dependent on public rangeland in the EIS area" (#5). As long as range-lands continue to deteriorate, the future of livestock operators in the area will be in jeopardy.

Nor will the No Action and Moderate Grazing Management alternatives achieve the stated objectives.

Of all the alternatives discussed, the Wildlife Enhancement proposal comes closest to achieving BLM's stated goals. However, we are not completely satisfied with it as it now stands. Like the proposed action, it may not allow range conditions to improve substantially on the allotments to be intensively

managed. Questions about perennial-ephemeral grazing and the length of the "rest" period needed remain to be resolved.

We suggest BLM improve the Wildlife Enhancement alternative by altering it to include elimination of livestock grazing on all riparian habitat zones under its control, or use of other techniques that will allow normal regeneration and growth of riparian vegetation; phasing out of all ephemeral grazing on the allotments to be intensively managed; and very close monitoring of all allotments to ensure that stocking levels are permitting the recovery of the range and regeneration of key forage and cover plants.

Burros

This species is an exotic, and where its existence threatens the survival of native wildlife, BLM should have no compunction about eliminating it, using the most humane and effective methods available. We strongly support the proposed reduction of the burro herd by 84%.



- 20-1 We understand that one rest/deferment period for a particular pasture will not improve the rangeland from poor to fair condition. Over a 20-year period, however, allotments with intensive grazing systems will have a series of grazing treatments during which time the rangeland is predicted to improve from poor to fair condition. Future numbers are estimates from data gathered during the 1978-79 rangeland inventory and range site guides provided by the SCS. See Appendix 1-1 for criteria used to arrive at increases in forage production. Forage production is measured in usable forage produced, not in total vegetation produced. As shown in corrected Table 2-12 (see Errata), forage production is expected to rise from 99,242,065 pounds to 118,088,365 pounds as a result of the proposed action.
- 20-2 As of yet, no specific grazing systems have been adopted. Grazing treatments would be incorporated into specific grazing systems. These treatments, described on page 18 of the draft EIS, would also consider ephemeral vegetation on perennial-ephemeral allotments. Perennial-ephemeral grazing is a designation, not a grazing system. On perennial-ephemeral allotments livestock are permitted to graze perennial vegetation, and additional livestock grazing may be authorized when there is enough annual forage.
- 20-3 Significant improvements in rangeland resources are predicted under the proposed action, as are some improvements in wildlife habitat (see draft EIS, pages 2, 3, 37, and 76-82). Further
- 20-4 improvements to wildlife habitats, including sensitive riparian areas, should be generated as activity plans are prepared and implemented in specific areas. See General Response 2.
- 20-5 BLM is not proposing a specific rest-rotation grazing system. Individual allotments differ, and a particular system may get better results in one allotment than in another. The moderate grazing alternative, however, would not have the same results as the proposed action. See Table 2-12 (page 37, draft EIS), Impact Summary, for comparison of impacts among alternatives.



*The Maricopa Audubon Society* ARIZONA STATE OFFICE  
 4619 East Arcadia Lane • Phoenix, Arizona 85018 BU. LAND MANAGEMENT

May 5, 1981

MAY 13 1981

7:45 A.M.  
 PHOENIX, ARIZONA

Clair Whitlock  
 State Director  
 Bureau of Land Management  
 2400 Valley Center  
 Phoenix, AZ 85073

Dear Mr. Whitlock:

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The Maricopa Audubon Society would like to compliment the Bureau of Land Management on producing perhaps the best Draft Environmental Impact Statement ever reviewed by our membership. It cannot be stressed enough the need for EIS's to inform the public on federal actions that may affect them.

The Hualapai-Aquarius Draft Grazing Environmental Impact Statement is a well written, well illustrated and factual document which reflects the quality of the staff which prepared it. Our expectation is that all future documents produced by the BLM-- in fact, all federal agencies-- can equal this statement.

This Society is pleased with many of the aspects of the proposed Action. This includes the recommendations to:

- (1) achieve an average utilization of 50% of the annual production of key forage species,
- (2) plant deciduous riparian hardwoods in strategic areas.

The proposed Action, like so many other well-intended plans, does contain a flaw. That imperfection deals with one of Arizona's most precious commodities: riparian habitat. Throughout the Impact Statement's eloquent dialogue are quotes of researchers' praise for the rarity and uniqueness of this habitat.

Unfortunately, the proposed Action does not place the concern for this dwindling resource as a priority. This Society, dedicated to the protection of wetlands in an arid environment, is distressed over the Bureau's apparent lack of concern for this habitat. This attitude is hopefully just an oversight which will be corrected as the proposed Action is refined. We are sure you are aware of the merous facts on

Page two, letter to BLM State Director from MAS President, May 5, 1981

fauna and flora density and diversity found in these areas and the regulations and laws which guarantee the presentation of these priceless natural heritages and species that utilize them.

We anxiously await the proposed Action in its final form and hope it will stress the protection of this resource which only encompasses a minute fraction of the entire EIS area-- but on which so much depends.

Additionally, we would like the opportunity to meet and discuss this with you at a future time, after we have had an opportunity to consider the matter with the permittees in the area, and after our scientific support staff has had an opportunity to study these matters more fully and make recommendations thereon.

Sincerely,  
*Scott Burge*  
 Scott Burge  
 President



MAY 11 12 50 PM '87

COMMENTS ON THE HUALAPAI-AQUARIUS DRAFT  
GRAZING ENVIRONMENTAL IMPACT STATEMENT

by

Aubrey S. Johnson  
S. W. Representative  
Defenders of Wildlife

Those who participated in the preparation of the Hualapai-Aquarius D.E.I.S. are to be congratulated. It is an unusually lucid and frank document, and furnishes the reader with some of the information with which to make a decision

BLM devotes nearly all of its land to grazing, and the public has a right to ask that an activity that is so ever-present be so controlled that it allows other public values to prosper also-not just that they survive, but prosper. In my opinion, the Proposed Alternative (P.A.) does not do this adequately.

The most glaring deficiency in the P.A. is the treatment of the riparian areas. Many references throughout the Draft E.I.S. can be found that tell of the importance of the riparian areas, but the P.A. does not reflect such awareness. For example, the Draft stated that the management techniques planned for the P.A. will allow increase of herbaceous vegetation, but that the all-important cottonwood, willow and ash trees will continue to decline. Elsewhere the D.E.I.S. states that without such woody plant cover, many species would cease to exist. Therefore, the general quality of the habitat would continue to decline, in an area already depleted due to over-grazing.

I therefore recommend that BLM write its final E.I.S. in such a way that all of the riparian habitat be fenced off from both cattle and burros. The entire riparian area amounts to less than 1% of the entire Hualapai-Aquarius Area, but (as the Draft repeatedly states) its importance goes far beyond that small percentage.

Since all of the Hualapai-Aquarius Planning Area is in an area of very low rainfall, BLM needs to more adequately allow for this reality. In such an area, drought is not an emergency, but the normal condition. Nearly all of the native

plants and animals mirror this reality in their own bodies.

When a 1,000 pound herbivore is added to the above areas, something else has to go. There are no empty niches. The elaborate root systems, the drought-deciduous leaves, the spines, the growth inhibitor coatings, etc., do little good when such self-protective mechanisms are short-circuited by the presence of too many cattle. I urge that the Final EIS recognize that in much of the area, any cattle may be too many.

Accordingly, I support the Wildlife Enhancement alternative. Given the reality of 100 years of grazing abuse, confining livestock to 40% utilization of key plant species does not seem too much to ask.

According to my calculations, BLM is considering spending (under the P.A.) an average of over \$106,000 per ranch, or about \$740.00 per cow. In addition, maintenance costs would average \$4,200 per ranch each year for 20 years. This amounts to an outright taxpayer subsidy to enable 30 BLM permittees to produce a paltry number of cattle while continuing to abuse the land and prevent it from supporting as much wildlife as it otherwise could support. I do not believe that the Federal Land Policy and Management Act (FLPMA) intended that multiple-use management of the public land include the use of tax monies to support a rancher's life-style.

It is time, indeed past time, that the western rancher on such arid lands has an influence that is proportionate to his economic contribution to society. If his life-style can survive when all other public values are retained on the land, fine. If he cannot, so be it.



23

**SOUTHWEST HAWK WATCH**

ARIZONA STATE OFFICE  
BU. LAND MANAGEMENT

MAY 13 1981

7:45 A.M.

PHOENIX, ARIZONA

Please address  
reply to:

Richard L. Glineski  
3313 E. Monte Vista  
Phoenix, AZ 85008

May 11, 1981

Mr. Clair Whitlock  
State Director  
Bureau of Land Management  
2400 Valley Center  
Phoenix, AZ 85078

Dear Mr. Whitlock:

The Southwest Hawk Watch is alarmed by the lack of regeneration of deciduous trees in the perennial riverbottoms of the Hualapai-Aquarius EIS area.

Grazing by livestock has greatly reduced the number of trees used by nesting raptors. Perennial riparian areas in the EIS on Burro Creek, Francis Creek, Conger Creek, Pine Creek and Trout Creek support Black and Zone-tailed Hawks. These raptors are listed as threatened and unique by the Arizona Game and Fish Commission; they are indicators of the considerable ecological significance of these areas.

Devotees of raptorial species from throughout the U.S. throng to Arizona and the Southwest to share the visual experience of the Zone-tailed and Black Hawk in its natural habitat. These people from all fifty states fill motel rooms, eat meals at local restaurants and purchase gasoline, thereby contributing to the local economy.

Despite the recognized value and deterioration of these riparian areas, the proposed action alternative of the EIS has failed to adequately deal with this issue of protecting these priceless areas. For example, the Burro Creek allotment has received a proposed stocking cut of 58%. Such a cut will not solve this matter since cattle congregate in the riverbottom for both shade and water during the hot summer and fall months. Cutting the stocking rate 80 to 90% probably still would not address this condition.

This minor reduction in grazing fails to meet the ecological needs of this narrow, steep-walled ten mile stretch of heavily grazed riverbottom because when the summer arrives, the remaining 42% of livestock will inevitably over utilize the riverbottom for shade and water.

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- Secretary  
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-2-

The seedlings and saplings germinated by the 1978 and 1980 floods are currently being browsed to extinction in Burro Creek. In a recent survey by one of our members, over 90% of the cottonwoods on the upper four miles of Burro Creek and three miles of the adjacent Francis Creek area had been grazed last summer or fall. The remaining stunted, branched, bush-like trees will not likely survive another browsing. Thus, vegetative response of recent, once-in-a-decade floods will be lost under current range management.

Grazing should be eliminated from the Burro Creek allotment, if not all the EIS allotments, for a period of time suitable to permit the development of browse-proof trees. After that time, the area should be cautiously reopened to grazing at a level which will permit suitable tree regeneration.

We believe the action for immediate closure of these riparian areas is necessary in order to save one of the Southwest's most outstanding Sonoran Desert riparian habitats from irremediable loss.

Sincerely,

Richard L. Glineski  
President



24

Jack Wilson  
Wikieup, Ariz.  
April 5, 1988

RECEIVED  
MAY 7 1988

24-1 See Response K-5.

24-2 The map in the draft EIS shows crucial desert tortoise habitat where density estimates are greater than 50 per square mile. The map is not meant to infer there are not tortoises in other areas. Desert tortoise were inventoried by an independent contractor in 1977-1978. The results of the work are on file in BLM's Phoenix District and Kingman Area Offices.

24-3 See General Response 2.

24-4 Information on bighorn use of the Chicken Springs and Bateman Spring allotments came from the Arizona Game and Fish Department, the State authority on big-game populations, and is documented in the Hualapai Unit Resource Analysis. These records have been subject to public scrutiny and review during the planning process.

Vr. Roger Taylor  
BLM Kingman Ariz.

Subject: Comments on draft grazing input  
KINGMAN RESOURCE AREA

In my opinion there is something terribly wrong about the deer count on various allotments. I know that deer move to some extent and could be found in an area at one time of year and not at another time, but in the area I am in and my immediate neighbors the deer are never there in the numbers indicated.

24-1

There is in the DCEI Statement a map of where the turtles are, with the idea in mind to set grant an ephemeral license on their certain areas. I am sure, there are no more turtles one place than another, other than less turtles at higher elevations. It is mentioned that there may be 50 turtles to the square mile. We live on the ranch and maybe see 2 or 3 turtles per year. It would seem that we should see more if that number is about correct. We have been on this ranch for 36 years.

24-2

To me, most important of all is the severe cuto. If a ranch has a small acreage in the poor and fair range and a much larger acreage of good with some excellent, probably little or no cut is needed. It has been many years, as such as 10 or 12 times we have had a good summer as far as rainfall is concerned. If a ranch shows to be good with some excellent at time of survey then it should set get a cut.

24-3

There is mention of sheep on the Bateman and sometimes Chicken Springs allotment. I feel there are never any sheep on Chicken Springs allotment, and we have never seen any on the Bateman allotment. I have been told they come into the Bateman allotment to lamb but we rode in there this past February when there was some temporary water out in the rough country, but we could not find a track. Also checked a wild life water catchment for tracks, but none were there.

24-4

Yours Very Truly,  
*Jack Wilson*  
JACK WILSON

25



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
215 Fremont Street  
San Francisco, Ca. 94105

MAY 12 1981

Project #D-BLM-K65045-AZ

Clair M. Whitlock, State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Dear Mr. Whitlock:

The Environmental Protection Agency (EPA) has received and reviewed the Draft Environmental Impact Statement (DEIS) titled HUALAPAI-AQUARIUS GRAZING MANAGEMENT PROGRAM.

The EPA's comments on the DEIS have been classified as Category IO-1. Definitions of the categories are provided by the enclosure. The classification and the date of the EPA's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal Actions under Section 309 of the Clean Air Act. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and the adequacy of the environmental statement.

The EPA appreciates the opportunity to comment on this DEIS and requests five copies of the Final Environmental Impact Statement when available.

If you have any questions regarding our comments, please contact Susan Sakaki, EIS Review Coordinator, at (415) 556-7858.

Sincerely yours,

Jake Mackenzie, Director  
Surveillance and Analysis Division

Enclosure

EIS CATEGORY CODES

Environmental Impact of the Action

IO--Lack of Objections

EPA has no objection to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2--Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.



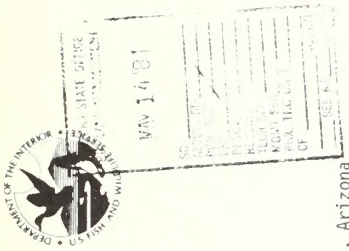
26



**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE**

AREA OFFICE, ARIZONA - NEW MEXICO  
2953 W. INDIAN SCHOOL ROAD  
PHOENIX, ARIZONA 85017

May 12, 1981



RESPONSE - LETTER 26

26-1

The draft EIS recognizes that riparian areas have value for both livestock grazing and wildlife habitat. Competing demands in riparian zones are central to one of the major issues addressed in the EIS. Considerable attention was given to the impacts on wildlife use of riparian habitats under the wildlife sections of Chapter 4.

**MEMORANDUM**

To: State Director, Bureau of Land Management,  
Arizona State Office, Phoenix, Arizona

From: Acuna Area Manager, U.S. Fish and Wildlife Service, Phoenix, Arizona

Subject: Draft Grazing Environmental Impact Statement, Hualapai-Aquarius Planning Area, Mohave and Yavapai Counties, Arizona

We have reviewed the subject DEIS and offer the following general comments for your consideration.

It is stated on page 55 that riparian vegetation is the most valuable wildlife habitat in Arizona. However, in Chapter 4, when discussing impacts of various alternatives on riparian habitat, the document seems to focus on the value of this habitat for livestock grazing. We believe it would be more appropriate to focus on the value riparian habitat has for wildlife and how this value will be affected, rather than on how livestock grazing values will be affected.

Because of the extreme importance of riparian habitat to wildlife, we would like to see features from the "Wildlife Enhancement Alternative," such as the following, incorporated into the preferred plan.

Fencing of riparian habitat to halt deterioration due to livestock grazing and to facilitate long-term recovery.

Piping livestock waters out of riparian or aquatic areas containing existing or proposed windmills, wells, or other water developments.

New livestock waters would be developed only if they would not increase livestock utilization in crucial wildlife habitat. (We consider riparian habitat to be crucial wildlife habitat.)

We appreciate the opportunity to comment on this draft statement.

cc: Director, Arizona Game and Fish Department, Phoenix, AZ  
Regional Director, USFWS, Region 2, Albuquerque, NM  
Field Supervisor, USFWS, Phoenix, AZ

Clair M. Whitlock  
May 13, 1981  
Page 2



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1688 WEST ADAMS STREET  
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DEPUTY DIRECTOR

May 13, 1981

Mr. Clair M. Whitlock  
Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, Arizona 85073

Dear Mr. Whitlock:

The Natural Areas Advisory Council (NAAC) of the Arizona State Parks Board, has identified the following areas of significance upon review of the Hualapai-Aquarius Draft Environmental Impact Statement.

The NAAC is responsible for Arizona's Natural Area Program and identifies and studies unique and representative natural areas, regardless of land ownership, that are significant from a State perspective. Three areas within the boundaries of the Hualapai-Aquarius Planning Area have been identified as proposed natural areas (PNA):

**Burro Creek North Proposed Natural Area (BCNPNA):** This natural area, in a transition zone between the Sonoran and Mohave Deserts, supports a diversity of plant communities. The riparian ecosystem along Burro Creek adds considerably to the value of this site. The BCNPNA encompasses approximately 2,000 acres and is located at T14N, R10W, Sections 5, 6, 7 & 18 and T14N, R11W, Sections 12 & 13.

**Burro Creek South Proposed Natural Area (BCSPNA):** The BCSPNA contains representative communities of both the Lower and Upper Sonoran Life-Zone and lies between two different regions of transitions. The site is situated between the Sonoran and Mohave Deserts and between the arid lowlands of Southern Arizona and the cool, forested plateaus of Northern Arizona. The natural area covers approximately 2,560 acres and is located at T13N, R10W, Sections 5 & 6 and T14N, R10W, Sections 31 & 32.

ARIZONA STATE OFFICE  
BUREAU OF LAND MANAGEMENT  
MAY 14 1981  
ASSOC. ST.  
PUB. AFF.  
REC. MGMT.  
TECH. SER.  
MGMT. SER.  
PH. TEL. DIV.  
OFF. OF THE DIRECTOR

Kaiser Spring Canyon Proposed Natural Area (KSCPNA): This proposed natural area was identified primarily for its geologic and hydrologic values. The extremely rough and varied canyon topography and thermal hot spring located about one-half mile northeast of the convergence of Kaiser and Burro Creek Canyons are geologically and aesthetically interesting. The site is at T14N, R12W, Sections 2, 11, 10, & 15 and is approximately 320 acres.

There are other areas possessing unique or critical components in the Hualapai-Aquarius Planning Area, but due to limited time and resources, the NAAC has not been able to complete adequate studies of the potential natural areas. Your BLM staff is to be commended on their thorough field work and identification of Areas of Critical Environmental Concern. They have been most cooperative and helpful.

Thank you for the opportunity to comment on this draft Environmental Impact Statement. I look forward to working with the BLM on future projects. If you have any questions, please contact me.

Sincerely,

MICHAEL A. RAMNES  
State Parks Director

*Janice T. Baldwin*  
Tanna T. Baldwin  
Natural Areas Coordinator

TTB:oml



### Arizona's Natural Areas Program

Arizona's outstanding natural diversity has long been recognized by professionals and laymen alike. The many variations in topography, weather, vegetation and wildlife have attracted both the public's praise and scientific scrutiny for many years. Arizona's claim to one of the nation's highest population growth rates is presently placing intense demands on all of our State's resources. The resulting challenge for Arizonans is provision for this phenomenal growth while preserving the very values for which people move to Arizona.

In 1971, recognizing Arizona's unique natural diversity and its need for protection, the Natural Area Committee of the Arizona Academy of Science applied for a research grant from the Governor's Office of Economic Planning and Development to study Arizona's established natural areas and to identify additional sites for protection. The established areas are those that are managed and protected by governmental land agencies such as the U.S. Forest Service, and private organizations like the Nature Conservancy. In addition to the established natural areas, 75 sites were proposed to represent the State's various ecosystems, important habitats and hydrological and geological structures that are presently in good condition and worthy of recognition and preservation.

At the completion of the study in 1975, the Governor asked the Arizona State Parks Board to assume the Natural Areas Program. In 1976, the Parks Board formally adopted the program and, through a Natural Areas Coordinator and a Natural Areas Advisory Council, continues to study additional areas, recommend mitigating and protective measures and to register protected sites on Arizona's Natural Areas Register. The Council is composed of ten scientists representing the various scientific fields and is nominated by the Arizona-Nevada Academy of Science and approved by the Arizona State Parks Board.

The Natural Areas Program identifies sites within Arizona's natural landscape, regardless of land ownership, that represent the array of unique and representative ecosystems, geologic features and limited or unusual habitats which contain endangered, rare or peripheral species. The program is one of recognition, not acquisition. By identifying these special areas with the State for land use planning and preservation efforts and by bringing a site's natural values to the attention of the land owner, it is hoped that a measure of protection will be secured that might not otherwise occur.

A potential natural area may be suggested by private individuals, organizations or public agencies. A potential site is inventoried and evaluated by the Natural Areas Advisory Council for possible acceptance as a Proposed Natural Area. An assessment is made of the site's features such as climate, geology, floral and faunal components, natural area qualities and there is documentation of the site's history of disturbance, present management, ownership and suggested uses. Two of the tools used in this evaluation process are: A Digitized Classification System for the Biotic Communities of North America by Brown, Lowe and Puse, and A Numerical Scheme for Evaluating Proposed Natural Areas in Arizona by Linwood Smith. The Council has enacted goals and objectives, definitions and criteria. The criteria incorporate the concepts of diversity, uniqueness, genetic pools and include biologic, geologic and hydrologic values. Consideration is given to sites suitable for scientific research, environmental education and limited recreation use.

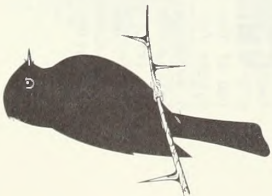
The Natural Areas Advisory Council, after field investigations and study of sites, awards proposed status to selected natural areas, thereby providing a judgment on a site's conformance to natural area criteria and its level of significance within the State and confers eligibility for registration on the Natural Area Register.

Registration of a site is accomplished through a Memorandum of Agreement, or a Letter of Understanding, both non-binding documents, between the Parks Board and the owner/agency. The Memorandum identifies natural values, present management, the responsibilities of each party and contains an agreement to communicate should any changes occur. The Letter of Understanding received by the Parks Board from the owner/agency, recognizes the area's natural values and states the owner/agency's intent to continue the existing management and protection. A Certificate of Registration is presented to all the owners/agencies who allow registration of a site.

A Certificate of Recognition may be awarded to an agency or owner unable or unwilling to put anything in writing or to enter into a formal agreement, but whose management reflects concern for a site's natural values and maintenance. A site of this nature is not included on the Natural Area Register.

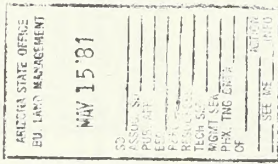
There is currently a total of 96 Proposed Natural Areas, expanded from the original 75 sites. This status is the initial designation prior to registration and is given to a site after the Council has reviewed the area's natural values. It is primarily a land use planning and notification step. Although this designation has no legal status, it serves to red-flag sites that might otherwise be overlooked during planning for long range public projects such as power lines, dams and other consumptive uses. It calls attention to values that may not be apparent to agencies or owners, but that are important in the spectrum of sites in Arizona. Cooperation with local, State and Federal agencies is essential to the success of Arizona's Natural Areas Program. Federal agencies do not have a State perspective to identify important sites within the State's range of natural systems; yet with a major portion (over 45% in Federal administration and 30% in Indian ownership) of Arizona's land under Federal management, this cooperation must occur to protect the State's significant lands.

28



**TUCSON AUDUBON SOCIETY**  
TUCSON AUDUBON SOCIETY  
30-A N. Tucson Blvd.  
Tucson, AZ 85716

14 May 1981



Clair M. Whitlock  
Arizona State Director  
Bureau of Land Management  
2400 Valley Bank Center  
Phoenix, AZ 85073

Dear Mr. Whitlock:

The Tucson Audubon Society strongly supports the Wildlife Enhancement Alternative in the Hualapais-Aquarius EIS. In particular, the enclosure of Burro Creek to cattle grazing is endorsed, as this would facilitate restoration of a valuable riparian area by promoting vegetation (cottonwood, willow, etc.) regeneration.

Thank you for this opportunity to comment.

Sincerely,

Douglas Koppinger  
Wilderness Committee Chairman

**conservation education recreation**

29

1034 E BUENA VISTA DRIVE  
TEMPE, ARIZONA 85284

May 10, 1981

SEARCHED	INDEXED
SERIALIZED	FILED
MAY 10 1981	
FBI - PHOENIX	

Jim Crisp  
Bureau of Land Management  
2929 W. Clarendon Avenue  
Phoenix, AZ 85017

Re: Comments on the grazing draft EIS for Hualapai/Aquarius

Dear Jim:

The DEIS is well organized and readable. As a participant in the MFP process I would also like to commend the BLM for carrying out a broad based public participation program. I have the following specific comments on the draft:

- iv. Under the list of persons to whom copies are sent, include the Phoenix District Advisory Council and I presume the Grazing Advisory Board also.
- The no action and the elimination of grazing alternatives are required and serve best as contrasts to the other three alternatives. There are elements in all three of the others that could serve as a composite for the final choice.
- The proposed alternative is commendable as it will result in good range improvements and will minimize cuts and therefore economic hardship on the rancher. I have two main concerns with the proposed action:
  - The first is the capital cost and the maintenance. Is this realistic? Can these improvements be completed and how soon? Will there be such delays that the goals of the program remain unreachable? Perhaps there could be more flexibility in approach. Perhaps intensive systems are in order on some allotments whereas others could have a less costly and less intensive system with the lesser forage consumption as outlined in the moderate alternative. In several instances the EIS advocates monitoring the range to see how it is doing and to determine if specific objectives are being met. Hopefully, there will be considerable flexibility in how to meet the objectives with the leasee and the BLM working out the AMP.
  - Secondly, the goals of the program under purpose and need (Chap. 1, pg. 7) include #3, "Improve water quality in the Burro Creek and Big Sandy watersheds and provide for recognized uses, including aquatic habitat." and #8 "improve and protect riparian communities..." and yet as noted in the summary (pg.3) "Riparian habitat quality would continue to degrade under all alternatives except wildlife enhancement and elimination of grazing." If the proposed action is adopted, more provision for protection and enhancement of riparian areas should be included. Some fencing of riparian areas should be done to see if it even works. The elimination of burros from 7840 acres of riparian habitat as suggested in

29-1

29-2



the wildlife enhancement alternative should be considered. Elimination of grazing on the Burro Creek allotment might have to be considered if fencing or rotation of pastures doesn't accomplish the objectives but there is no sense putting economic hardships on the lessee if burros are still in this critical area.

AMP's should be geared to allowing riparian areas a chance to recover and seedlings to establish. Wildlife needs and problems should be addressed on a case by case basis (as far as fencing, ephemeral grazing, etc.) when developing AMP's. Often just awareness and consultation on the possibilities can lead to good solutions.

Sincerely,

*Eva Patten*

Eva Patten  
Phoenix District Advisory Council member

RESPONSE - LETTER 29

29-1 This has been done.

29-2 Funding the proposed action is a legitimate concern. The moderate grazing management alternative was developed, in part, to provide a suitable option for BLM managers to adopt in the event funding is curtailed or where specific grazing management proposals fail to meet minimum benefit-cost criteria. We agree that flexibility, coordination with the allottees, and looking at elements from more than one alternative are essential in formulating a successful grazing program.

May 11, 1981

Bureau of Land Management  
2529 W. Clarendon Ave.  
Phoenix, AZ 85017

Dear Sir:

I am submitting the following comments on the Hualapai-Aquarius Draft Grazing EIS:

In the preparation of planning for this Unit, BLM asked many citizens to spend their time in helping them sort through the important issues. I was a participant as a wildlife representative on the URA and MFP-2 workshops concerning the Hualapai-Aquarius Planning Unit. Throughout the workshops the importance and sensitivity of riparian habitat, especially Burro Creek, was emphasized. In the MFP-2 workshop which took into consideration all issues and set priorities, the participants recommended:

1. implementation of fencing riparian vegetation to allow for recovery of riparian species
2. elimination of grazing in the Burro Creek allotment as the allotment is comparatively small with a small cattle herd--all the land within the allotment is publically owned with only a small part suitable to grazing.

After all the time spent in conflict resolution by the participants, neither of these recommendations was carried forward into the proposed alternative.

The EIS states that the proposed alternative will not cause the riparian vegetation in the Unit to improve and will result in the decline of the riparian vegetation and special-status species such as the bald eagle, black hawk, and zone-tailed hawk. The riparian habitat is identified in the wildlife MFP-1 as the most productive habitat on the entire Planning Unit, yet while other habitats are addressed through the proposed alternative, the riparian habitat is abandoned.

Burro Creek, especially, will suffer. From an October 1979 BLM report:

"On Burro Creek many of these adverse overgrazing impacts are noticeable. Regeneration of the corridor forest is inconsistent in all but isolated segments of upper reaches of Francis, Conser, and Pine Creeks. Despite the dispersal, germination and initial growth of seedlings throughout the drainase, grazing and trappings have prevented establishment." Burro Creek is documented as an extremely important wildlife area supporting special status species whose existence is threatened by the Proposed alternative.

ARIZONA STATE OFFICE	
BU. LAND MANAGEMENT	
MAY 10 '81	
SD	ASSOC. STAFF
ED	ED. MFP
PLAC	RESOURCES
TECH SER	TECH SER
MAN. SER	MAN. SER
CP	CP
SEE ME	ACTION
INFO	INFO

31



Arizona  
State Land Department

1824 WEST ADAMS  
PHOENIX, ARIZONA 85007



JOHN L. FOLLIS  
COMMISSIONER

ARIZONA STATE OFFICE BU. LAND MANAGEMENT	
MAY 15 1981	
SO.	ASSISTANT
PUB. AFF.	RECORDS
PLAC.	RESOURCES
MAN. SERV.	ADMIN. SERV.
PHX. TRNG. CNTR.	CF
SFE R.F.	MAILING (INFO)

May 15, 1981

Mr. Clair M. Whitlock  
Arizona State Director  
Bureau of Land Management  
2400 Valley Center  
Phoenix, Arizona 85073

Dear Mr. Whitlock:

The staff of the Arizona State Land Department has reviewed the Bureau of Land Management's Draft Hualapai-Aquarius Grazing Environmental Impact Statement in the Kingman Resource Area. Approximately 350,000 acres of State Trust land lie within the ES area. Historically, the Department's stated objective for the management of Trust lands under the Enabling Act is for maximum sustained production of food, fibre and the timely recovery of minerals. Because of the interspersed land ownership pattern within the ES area, any management action the Bureau proposes for the federal lands will surely influence the use of the State Trust lands.

The following comments are offered for consideration in future deliberation on the proposed action:

1. Where State land is involved, the combination of allotments into singular or community allotments will require changes in State leases or filing of subleases for those allottees now holding a current State lease. This is required under Arizona Revised Statutes 37-283. Prior to final determination by your agency, any issue relative to the use of State land by multiple allottees should be settled.
2. In allotments where State acres are involved, it is suggested that the Bureau and the State Land Department coordinate efforts to determine correct State acreage figures within each allotment.
3. As proposed, the reduction of livestock numbers prior to the completion of improvements for management system implementation may have only limited value for vegetative improvement, while maximizing the negative economic impact to the rancher. Before final determination each allotment should be reviewed in detail and every effort be made to minimize the negative economic impact to the rancher.

The final EIS should:

1. incorporate riparian mitigation measures on page 126 and specify where these measures will be implemented. Also, riparian-tree plantings in certain areas should also be incorporated.
2. change the proposed action for Burro Creek allotment to incorporate the wildlife enhancement alternative; i.e. a 50% decrease in cattle allowed.

Thank you for the opportunity to respond to your EIS.

Sincerely yours,

Susan E. Monroe  
10320 N. 37th St.  
Phoenix, AZ 85029



32

SIGNOFF *Moira*  
OMB Approval No. 29-R0218

3. State application identifier: **AZ 81-80-0023**

4. Number of copies: **1**

5. Date received: **MAY 21 1981**

6. Date of action: **19 81 01 03**

7. Federal Employer Identification No. *Blank*

1. Type of Action:  Preapplication,  Application,  Notification of Intent (Opt.),  Report of Federal Action

2. Applicant's application: *Leave blank*

3. Applicant's name and address: **Mr. Jim Crisp, EIS Team Leader, Bureau of Land Management, Phoenix District Office, 2929 West Clarendon Avenue, Phoenix, Arizona, Zip Code: 85017**

4. Legal Applicant/Recipient: **Mr. Jim Crisp, EIS Team Leader, Bureau of Land Management, Phoenix District Office, 2929 West Clarendon Avenue, Phoenix, Arizona, Zip Code: 85017**

5. Title and description of applicant's project: **HUALAPAI-AQUARIUS DRAFT GRADING ENVIRONMENTAL IMPACT STATEMENT**

6. Title and description of applicant's project: **Proposal to implement a grazing management program on portions of the Hualapai Aquarius Planning Area. The program would allocate vegetation to livestock, big game and wild burros. Remedial level grazing management identifies needed range land developments, outlines a schedule of implementation. Measures to protect or enhance environmental resources have been incorporated into the program.**

7. Area of project impact: **Southeast Mohave County and part of the West Side of Yavapai County, Arizona**

8. Congressional Districts: **00**

9. Estimated date to be submitted to federal agency: **19**

10. Estimated date to be submitted to federal agency: **19**

11. Estimated number of persons benefiting: **03**

12. Estimated date to be submitted to federal agency: **19**

13. Estimated date to be submitted to federal agency: **19**

14. Estimated date to be submitted to federal agency: **19**

15. Estimated date to be submitted to federal agency: **19**

16. Estimated date to be submitted to federal agency: **19**

17. Estimated date to be submitted to federal agency: **19**

18. Estimated date to be submitted to federal agency: **19**

19. Estimated date to be submitted to federal agency: **19**

20. Estimated date to be submitted to federal agency: **19**

21. Estimated date to be submitted to federal agency: **19**

22. Estimated date to be submitted to federal agency: **19**

23. Estimated date to be submitted to federal agency: **19**

24. Estimated date to be submitted to federal agency: **19**

25. Estimated date to be submitted to federal agency: **19**

26. Estimated date to be submitted to federal agency: **19**

27. Estimated date to be submitted to federal agency: **19**

28. Estimated date to be submitted to federal agency: **19**

29. Estimated date to be submitted to federal agency: **19**

30. Estimated date to be submitted to federal agency: **19**

31. Estimated date to be submitted to federal agency: **19**

32. Estimated date to be submitted to federal agency: **19**

33. Estimated date to be submitted to federal agency: **19**

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37. Estimated date to be submitted to federal agency: **19**

38. Estimated date to be submitted to federal agency: **19**

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42. Estimated date to be submitted to federal agency: **19**

43. Estimated date to be submitted to federal agency: **19**

44. Estimated date to be submitted to federal agency: **19**

45. Estimated date to be submitted to federal agency: **19**

46. Estimated date to be submitted to federal agency: **19**

47. Estimated date to be submitted to federal agency: **19**

48. Estimated date to be submitted to federal agency: **19**

49. Estimated date to be submitted to federal agency: **19**

50. Estimated date to be submitted to federal agency: **19**

4. Range improvements that may involve State land will require a proper application to place and approval prior to construction. In view of this, it is important that the State Land Department participate in the planning of these improvements to the extent possible.

5. Where proposed livestock adjustments will affect State Trust lands, it is suggested that the Bureau, State Land Department and the rancher review the subject allotments in order to work out reasonable solutions prior to AWP development.

Generally the document appears to be relatively complete and technically sound in the use of range management principles.

In conclusion, the Department feels the land ownership pattern in the Hualapai-Aquarius ES area requires the BLM, State Land Department and private interests plan the use of the areas range resources together so that possible conflicts may be resolved in a mutual manner.

We appreciate the opportunity to review and comment on the document and your continued cooperation.

Sincerely,  
*Kelly P. Johnson*  
Kelly P. Johnson, Director  
Natural Resources Conservation Division  
KRJ/RB0/tb

21. Remarks added:  Yes  No

22. To the best of my knowledge and belief, data in this preapplication/application are true and correct. I certify that the information provided by the governing body of the applicant and the applicant will comply with the attached assurances if the assurance(s) are approved.

23. Certifying Representative: *Blank*

24. Agency name: *Blank*

25. Application received: **19**

26. Organizational Unit: **Administrative office**

27. Address: *Blank*

28. Federal application identification: *Blank*

29. Address: *Blank*

30. Federal grant identification: *Blank*

31. Action taken:  a. Awarded,  b. Rejected,  c. Returned for amendment,  d. Local,  e. Withdrawn

32. Federal \$: **00**

33. Applicant \$: **00**

34. State \$: **00**

35. Local \$: **00**

36. Other \$: **00**

37. Total \$: **00**

38. Federal agency A-95 action: *Blank*

39. In taking above action, any comments received from clearing houses were considered. If agency response is due under provisions of Part 1, OMB Circular A-95, it has been or is being made.  Yes  No

40. Federal Agency A-95 Official (Name and telephone number): *Blank*

LETTER 32 (Cont.)

No Comment Responses Received From:

- Commission of Agriculture and Horticulture
- Arizona Natural Heritage Program
- Northern Arizona Council of Governments
- District IV Council of Governments

Comments Received From:

- Game and Fish Department (see Letter 19)
- State Land Department (see Letter 31)





# ERRATA



SOAPTREE YUCCA





# ERRATA

The following corrections and changes have been made to the text of the draft EIS. They are the result of public comment and agency review. The draft EIS together with this abbreviated final version, constitute the final EIS for the Hualapai-Aquarius Grazing Management Program.

Page 7, column 1, paragraph 1: Change last sentence to read: *Private lands make up 7 percent (93,152 acres) and State lands 27 percent (358,687 acres).*<sup>1</sup>

Page 7, column 2, paragraph 1, sentence 3: Insert: *apparent before trend.*

Page 7, column 1, footnote 1: Reverse the acreage for State and private lands.

Page 10, column 1, paragraph 2 under Environmental Assessment, sentence 3: Change *rangeland management program document* to *rangeland program summary*.

Page 20, column 1, paragraph 3, sentence 3: Insert *perennial* between *low* and *forage production*.

Page 22, column 1: Change the first paragraph under Implementation to read as follows:

*Following the filing of the final EIS and development of a range program summary, BLM would initiate a thorough consultation with livestock operators, affected land owners, Federal, State, and local agencies, and other organizations involved in rangeland management. During this period, BLM would examine inventory data, planning recommendations, and public comments pertaining to resource management in the area. Site-specific needs would be identified by allotment, including recommended studies, rangeland developments, types of grazing systems, and measures needed to restore riparian habitats. During consultation, if new information is presented that warrants adjustments, initial stocking levels and numbers or kinds of planned developments would be adjusted. Grazing systems would be developed in cooperation with the grazing operators and other key parties and would be documented in AMPs. Grazing system design would consider the condition of each allotment, present grazing practices, and the long-term needs of affected resources. Benefit-cost analyses would also be completed to ensure that proposals meet minimum acceptable criteria.*

Page 22, column 1, paragraph 3 under Implementation, sentence 1: Insert the word *individual* before the phrase . . . *grazing decisions have become final* . . .

Page 22, column 1, paragraph 4 under Implementation: Change the paragraph to read:

*Livestock numbers would be adjusted at the beginning of the second grazing season following completion of the EIS and preparation of the range program summary. Where livestock are reduced, the difference between the current active preference and the proposed allocation would be suspended. Suspended grazing preference would not be reauthorized until forage is available and allocated for livestock grazing on a sustained yield basis. Suspensions over 15 percent would generally be implemented over a 5-year period. The initial suspension would be taken on the effective date of the decision, and the balance would be taken in the third and fifth years. Before implementing each step of a phased suspension, BLM would review pertinent rangeland data to determine whether the suspension should be increased or decreased. If an adjustment is warranted, a new decision would be issued.*

Page 26, column 2: Replace Table 2-8 with the following revised table.

TABLE 2-8  
MODERATE GRAZING MANAGEMENT SUMMARY

Less Intensive Management (32 Allotments-785,470 Public Acres)

<u>Perennial-Ephemeral</u>			
Arrastra Mountain		Gray Wash	
Artillery Range		Greenwood Community	
Bagdad		Greenwood Pk. Community	
Bateman Springs		Groom Peak	
Big Sandy		Happy Jack Wash	
Black Mesa		Hot Springs	
Boriana	'A'	La Cienega	
Burro Creek		Lazy YU	'A'
Burro Creek Ranch		Lines	
Cane Springs Wash	'A'	Little Cane	
Chicken Springs		Los Molinos	
Diamond Joe		Sandy	'A'
Francis Creek		Walnut Creek	
Gibson		Wikieup	

Perennial Only

Kent's Cane Spring	'A'	McElhaney	
Hualapai Peak		Yellow Pine	'A'

Nonintensive Management (15 Allotments-20,226 Public Acres)

<u>Perennial-Ephemeral</u>			
Bottleneck Wash		Lazy YU	'B'
Byner		Round Valley	
Cane Springs Wash	'B'	Sandy	'B'
Fancher Mountain		Sweetmilk	
JJJ		Trout Creek	
Kayser Wash		White Springs	
Kellis		Yellow Pine	'B'
Kent's Cane Spring	'B'		

Ephemeral (4 Allotments-51,053 Public Acres)

Alamo Crossing		Chino Springs	
Boriana	'B'	DOR	



Page 32, column 2, under Implementation: Change 3-year to 5-year.

Page 35: Add the following item number 24 to the list of Measures for Resource Protection and Enhancement:

24. *Many of BLM's rangeland management decisions are made under pressure to implement management programs in the absence of adequate data on short-term and long-term plant and animal responses for specific areas and in the face of limited or conflicting research. Through its Arizona State Office, Phoenix District, and Kingman Resource Area, BLM will expand efforts to consult at length with livestock operators, State and Federal agencies, universities, the Arizona Range Task Force, and other interested parties before issuing decisions and during the formulation of AMPs. Inventory data, rangeland studies, planning recommendations, and proposed decisions will be reviewed and the rangeland program adjusted where warranted by new or additional information. BLM's coordination will continue indefinitely to ensure thorough evaluation of programs and the development of satisfactory procedures to resolve specific rangeland management problems.*

Page 37: Replace Table 2-12 with the revised version on the following page.

Page 46-47: Make the following changes in Table 3-5.

1. Soil Association 4 — Change percent of inclusions from 15 to 10.
2. Soil Association 10 — Change hydrologic soil group of Faraway to D.
3. Soil Association 10 — Add the following footnote number 8 after the Frees series: *This soil series name is a field name. It has not been reserved, and the series concept has not been completely reviewed.*

Page 49, column 2, paragraph 3: Change second sentence to read: *Annual water consumption requirements for livestock, big game, and wild burros in the EIS area amount to 68, 4, and 5 acre-feet respectively, totaling 77 acre-feet.*

Page 54, column 1, paragraph 1, last sentence: Change *excessive livestock utilization* to *excessive utilization from grazing animals*.

Page 54, column 1, paragraph 4, sentence 1: Change *threatened* to *in jeopardy*.

Page 54, column 1, paragraph 6: Change the first sentence to read: *Nine other species listed by the AG&FD in Arizona are present or may occur in the EIS area: . . .*

Page 54, column 1: Insert the following table between paragraphs 6 and 7.

ARIZONA STATE-LISTED WILDLIFE OCCURRING  
IN THE EIS AREA

Group II.	Species or subspecies in danger of being eliminated from Arizona.  Peregrine Falcon ( <u>Falco peregrinus anatum</u> ) Gilbert's Skink ( <u>Eumeces gilberti</u> )
Group III.	Species or subspecies whose status in Arizona may be in jeopardy in the foreseeable future.  Spotted Bat ( <u>Euderma maculata</u> ) Great Egret ( <u>Casmerodius albus egretta</u> ) Snowy Egret ( <u>Egretta thula brewsteri</u> ) Black-crowned Night Heron ( <u>Nycticorax nycticorax hoactle</u> ) Zone-tailed Hawk ( <u>Buteo albonotatus</u> ) Black Hawk ( <u>Buteogallus a. anthracinus</u> ) Desert Tortoise ( <u>Gopherus agassizi</u> ) Gila Monster ( <u>Heloderma suspectum</u> )
Group IV.	Species or subspecies of special interest because of limited distribution in Arizona.  Sonoran Mountain Kingsnake ( <u>Lampropeltis pyromelana</u> )

Page 62, column 2, last paragraph: Delete last sentence. Compilation of this list is still in progress.

Page 65, column 2, footnote: Change 200 acres to 2,000 acres.

Page 69, column 1 under Basic Assumptions, Item 6: Change second sentence to read: *Without implemented AMPs or historical utilization and trend studies in the EIS area, however, the inventory data for vegetation condition and apparent trend, production, and rangeland suitability are considered the most reliable existing data.*

Page 69: Add the following item number 9 to the list of Basic Assumptions:

9. *Without detailed plans identifying specific actions, locations, timeframes, and developments to be constructed, BLM cannot accurately project the impacts of the proposed action on sensitive riparian habitats in the EIS area. Because the treatment of these significant areas is considered a major issue in the planning and EIS process, BLM has analyzed the worst case situation as required by Council on Environmental Quality regulations (40 CFR 1502.22(b)). In developing detailed allotment management plans, habitat management plans, and herd management area plans, specific measures may be prescribed that would have a far more favorable impact on riparian systems than is projected in this analysis.*

Page 69, column 2, paragraph 5, line 6: Change 27 percent to 35 percent.



TABLE 2-12  
IMPACT SUMMARY<sup>5</sup>

Resource Elements	Existing Situation	Proposed Action	No Action	Moderate Grazing	Wildlife Enhancement	Eliminate Livestock
<b>Vegetation</b>						
Usable Forage Production (lbs.)	99,242,065	118,088,365	89,448,268	109,393,171	118,088,365	106,596,196
Plant Cover (%)	22	25	19	24	25	23
Range Condition (acres):						
Excellent	20,724	247,279	11,194	176,339	247,279	181,625
Good	280,791	415,407	135,907	287,627	415,407	155,938
Fair	466,231	142,340	296,050	266,474	142,340	430,215
Poor	89,003	51,723	413,598	126,309	51,723	88,971
<b>Soils</b>						
Sediment Yield (acre-feet/mi <sup>2</sup> /year)	0.33	0.32	0.36	0.32	0.32	0.30
Acres Permanently Disturbed	NA <sup>1</sup>	228	111	111	197	156
Erosion Condition (acres):						
Critical-Severe	9,384	Improve	Continue to	Improve	Improve	Improve
Moderate	97,523	Improve	Deteriorate	Improve	Improve	Improve
Erosion:						
Intensive & Less Intensive Allotments	NA <sup>1</sup>	Decrease	Increase	Decrease	Decrease	Decrease
Nonintensive Allotments	NA <sup>1</sup>	Increase	Increase	Increase	Increase	Decrease
Ephemeral Allotments	NA <sup>1</sup>	No Change	No Change	No Change	No Change	No Change
<b>Water Resources</b>						
Consumption by Grazing Animals (acre-feet)	77	50	77	41	42	9
Sediments						
Nutrient Pollutants	NA <sup>1</sup>	Decrease	Increase	Unaffected	Decrease	Decrease
Runoff	NA <sup>1</sup>	Decrease	Increase	Decrease	Decrease	Decrease
Fecal Coliform	NA <sup>1</sup>	Unaffected	Unaffected	Unaffected	Decrease	Decrease
<b>Wildlife</b>						
Big-Game Forage (AUMs)	0	12,388	0	12,212	14,577	12,212
Big-Game Numbers (Public Land):						
Elk	16	26	12	26	30	26
Mule Deer	2,687	3,427	2,150	3,384	4,091	3,384
Pronghorn Antelope	81	125	65	95	150	95
Desert Bighorn Sheep	19	30	17	30	40	30
Javelina	154	1,214	200	1,214	1,214	1,214
Wildlife & Habitat Impacts:						
All Wildlife	NA <sup>2</sup>	No Impact	Adverse	Slight to None	Beneficial	Beneficial
Riparian	NA <sup>2</sup>	Low Adverse <sup>4</sup>	High Adverse	Adverse	Beneficial	Beneficial
<b>Wild Burros</b>						
Burro Forage (AUMs)	0	834	0	834	834	2,898
Burro Population	843	139	843	139	139	483
<b>Cultural Resources</b>						
Change in Adverse Impacts to Cultural Resources	NA <sup>2</sup>	Moderate Increase	Moderate Increase	Moderate Decrease	Slight Decrease	High Decrease
<b>Recreation (Visitor Days)</b>						
Big Game Hunting	30,600	52,128	25,882	48,712	54,927	48,712
<b>Livestock Grazing</b>						
Allocated AUMs (Maximum Allowable on Public Lands)	74,417	46,165	74,417	36,649	37,268	0
Livestock Performance						
11 Small Ranches (0-151 head)						
Calf Crop (%)	55	63	55	61	63	NA <sup>2</sup>
Steer Calf Weaning Weight (lbs.)	510	561	485	561	561	NA <sup>2</sup>
Heifer Calf Weaning Weight (lbs.)	480	528	456	528	528	NA <sup>2</sup>
Cull Cow (%)	20	17	20	18	17	NA <sup>2</sup>
10 Medium-Size Ranches (151-300 head)						
Calf Crop (%)	62	71	62	68	71	NA <sup>2</sup>
Steer Calf Weaning Weight (lbs.)	490	539	465	539	539	NA <sup>2</sup>
Heifer Calf Weaning Weight (lbs.)	417	459	396	459	459	NA <sup>2</sup>
Cull Cow (%)	17	14	17	15	14	NA <sup>2</sup>
10 Large Ranches (>300 head)						
Calf Crop (%)	62	71	62	68	71	NA <sup>2</sup>
Steer Calf Weaning Weight (lbs.)	516	568	490	568	568	NA <sup>2</sup>
Heifer Calf Weaning Weight (lbs.)	437	481	415	481	481	NA <sup>2</sup>
Cull Cow (%)	17	14	17	15	14	NA <sup>2</sup>
<b>Economic Conditions</b>						
Net Revenues (\$):						
Small Ranch	2,215	3,186	1,707	2,101	2,295	88
Medium-Size Ranch	10,567	11,405	8,592	7,735	8,958	1,703
Large Ranch	18,435	34,115	13,692	21,945	25,849	2,486
30-Year Net Revenue Value:						
Small Ranch	23,582	26,562	23,582	18,723	18,055	1,078
Medium-Size Ranch	115,647	98,352	115,647	72,358	74,860	20,862
Large Ranch	196,952	261,097	196,952	175,470	189,423	30,463
Workyears (%) <sup>3</sup>	47.77	42.40	42.64	32.38	33.87	11.60
Ranch Values (\$)						
Small Ranch	131,625	133,920	131,625	75,600	77,400	22,500
Medium-Size Ranch	412,500	313,200	412,500	228,600	232,200	75,000
Large Ranch	1,394,750	1,359,000	1,394,750	986,400	995,400	475,500
Operating Expenses (\$)	967,370	839,650	923,680	693,000	698,470	417,020
Gross Receipts (\$)	1,279,540	1,326,710	1,163,590	1,010,810	1,069,490	459,790

<sup>1</sup> NA = Data not available.

<sup>2</sup> NA = Not applicable.

<sup>3</sup> Refer to Glossary for definition of a workyear.

<sup>4</sup> Worst case analysis.

<sup>5</sup> Except where noted otherwise, impacts are those projected 20 years after implementation.



Page 70, column 1, line 1: Change *35 percent* to *27 percent*.

Page 70, column 1, paragraph 2: Change second sentence to read: *An allotment with 1,000 acres of Joshua tree vegetation type in fair condition would thus produce 100,000 pounds of usable forage (1,000 acres x 100 pounds = 100,000 pounds of usable forage).*

Page 70, column 2, paragraph 1 under Plant Cover, sentence 1: Delete *apparent*.

Page 73, column 1, paragraph 3: Delete entire paragraph.

Page 73, column 1, paragraph 4, sentence 1: Change *from 26 to 27 percent* to *imperceptibly*.

Page 74: Add the following footnote that pertains to all elements under Soil Compaction:

<sup>3</sup>*Impacts to soil compaction are confined primarily to areas of livestock concentration, including areas around trails, corrals, feeding sites, rest areas, and livestock waters. Impacts are most noticeable on clayey soils.*

Page 75, column 2, paragraph 1: Change third sentence to read: *Consumption would decrease by 27 acre-feet to 50 acre-feet for livestock, big game, and wild burros.*

Pages 77, 93, 100, 110, 120, footnote number 1: delete the narrative for footnote number 1 and insert the following:

<sup>1</sup>*The rating system is as follows: 1 = most significant adverse impact; 2 = adverse impact; 3 = minor or no impact; 4 = beneficial impact; 5 = most significant beneficial impact; NA = not applicable.*

Page 79, column 2, line 1: Insert *Apparent* before *Trend*.

Page 88, column 1, paragraph 4: Change *\$250,050* to *\$196,952*.

Page 90, column 1 under Summary section: Change the second sentence to read: *Objectives to improve riparian habitats would be met only if AMPs, HMPs, and HMAPs incorporated specific measures that were effective in reversing declining trends in broadleaf tree reproduction.*

Page 99, column 2: Change first sentence to read: *Water consumption would decrease by 36 acre-feet to 41 acre-feet for livestock, big game, and wild burros.*

Page 108, column 2, paragraph 1: Change the third sentence to read: *Water consumption would decrease to 42 acre-feet for livestock, big game, and wild burros, a decrease of 35 acre-feet below present consumption.*

Page 119, column 1, paragraph 4: Change third sentence to read: *Consumption of water would decrease by 68 acre-feet to 9 acre-feet.*

Page 124, column 1, line 4: Change *\$250,050* to *\$196,952*.

Page 125, columns 1 and 2, first paragraph under Livestock Grazing: Delete entire paragraph. This measure has been incorporated into the proposed action as a result of recent amendments to the grazing regulations.

Page 125, third paragraph under Livestock Grazing: Delete entire paragraph. This measure has been incorporated into the proposed action.

Page 138, Appendix 2-1 Footnotes:

Change footnote 3 to read: *Only Federal land was surveyed on Cane Springs Wash and Burro Creek allotments; thus comparisons for the total operations cannot be made.*

Change footnote 5 to read: *Only that portion of the Hualapai Peak allotment to be administered as a BLM grazing allotment was surveyed. Thus present allowable use cannot be compared to allowable use under the proposed action as shown.*

Pages 139 and 140: Substitute the following entries (next page) for the designated allotments in Appendix 2-1.

Page 152, Appendix 2-4:

1. Change Unowned and Unleased acres by Allottee under the Bagdad Allotment to 61.
2. Change Federal acres under Byner Allotment to 3,927.
3. Change Federal acres under the Kellis Allotment to 1,745 acres.
4. Add the following second footnote to Appendix 2-4: *Acreages represent only those surveyed during the rangeland inventory. For a complete acreage summary, see the individual grazing allotment file in the Kingman Resources Area Office.*

Page 168: Substitute revised Appendix 3-2 for Appendix 3-2 in the draft EIS.

Glossary: Add the following terms and definitions.

Page 179

INITIAL STOCKING RATE. The livestock stocking level proposed by BLM and designed to reach a proper utilization of key forage species and to achieve other management objectives. The level is subject to adjustment whenever utilization or other rangeland studies reveal that change is needed to meet the objectives. Initial stocking rates may or may not differ from stocking levels authorized before grazing management programs are implemented.



APPENDIX 2-1  
LIVESTOCK GRAZING SUMMARY BY ALLOTMENT

Allotment	Present Allowable Use		Average License 1975-1980		Proposed Action		Percent Changes Present Allowable Use		No Action		Percent Changes Present Allowable Use		Moderate Management		Wildlife Enhancement		Percent Changes Present Allowable Use		Eliminate Livestock		Percent Changes Present Allowable Use		
	Fed	Cont	Fed	Cont	Fed	Cont	Fed + Cont	(Fed + Cont)	Fed	Cont	Fed + Cont	(Fed + Cont)	Fed + Cont	Fed	Cont	Fed + Cont	(Fed + Cont)	Fed + Cont	Fed	Cont	Fed + Cont	(Fed + Cont)	
0013 Burro Creek	720	1,800	720	1,800	264	264	0	0	720	1,800	238	238	0	0	0	94.3	0	0	0	0	0	0	0
0116 Byner	588	588.2	588	588.2	203	203	0	0	588	588.2	183	183	157	157	157	157	69	73	73	73	0	0	
0049 Kayser Wash	76	762	76	762	31	31	0	0	76	76	28	28	25	25	25	25	63	67	67	67	0	0	
0107 Kallias	264	2642	264	2642	50	50	0	0	264	264	45	45	40	40	40	40	83	85	85	85	0	0	
0075 White Spring	60	602	60	602	50	50	0	0	60	60	45	45	40	40	40	40	25	33	33	33	0	0	

## SOIL SERIES CLASSIFIED ACCORDING TO THE CURRENT SYSTEM OF CLASSIFICATION

Series	Family	Subgroup	Order
Abra	Fine-loamy, mixed, mesic	Ustollic Calciorthids	Aridisols
Anthony	Coarse-loamy, mixed (calcareous) thermic	Typic Torrifuvents	Entisols
Arizo	Sandy-skeletal, mixed, thermic	Typic Torriorthents	Entisols
Barkerville	Sandy-skeletal, mixed, mesic	Typic Ustorhents	Entisols
Cabazon	Clayey, montmorillonitic, mesic	Lithic Argiustolls	Mollisols
Cave	Loamy, mixed, thermic, shallow	Typic Paleorthids	Aridisols
Cavelt	Loamy, mixed, hyper- thermic, shallow	Typic Paleorthids	Aridisols
Cellar	Loamy-skeletal, mixed, nonacid, thermic	Lithic Torriorthents	Entisols
Continental	Fine, mixed, thermic	Typic Haplargids	Aridisols
Eba	Clayey-skeletal, mixed thermic	Typic Haplargids	Aridisols
Faraway	Loamy-skeletal, mixed, mesic	Lithic Haplustolls	Mollisols
Frees <sup>1</sup>	Loamy-skeletal, mixed	Lithic Haploborolls	Mollisols
Gaddes	Fine-loamy, mixed, mesic	Ustollic Haplargids	Aridisols
Hayhook	Coarse loamy, nonacid, thermic	Typic Torriorthents	Entisols
Hayhook Variant	Calcareous	Typic Torriorthents	Entisols
House Mountain	Loamy, mixed, nonacid, thermic	Lithic Torriorthents	Entisols
Latene	Coarse-loamy, mixed, thermic	Typic Calciorthids	Aridisols
Lomitas	Loamy-skeletal, mixed, hyperthermic	Lithic Camborthids	Aridisols
Lonti	Fine, mixed, mesic	Ustolic Haplargids	Aridisols
Luzena	Clayey, montmorillonitic, mesic	Lithic Argiustolls	Mollisols
Pastura	Loamy, mixed, mesic, shallow	Ustollic Paleorthids	Aridisols
Rillino	Coarse-loamy, mixed, thermic	Typic Calciorthids	Aridisols
Rillito	Coarse-loamy, mixed, hyperthermic	Typic Calciorthids	Aridisols
Schenco	Loamy-skeletal, mixed, shallow	Typic Camborthids	Aridisols
Springerville	Fine, montmorillonitic, mesic	Udic Chromusterts	Vertisols
Thunderbird	Fine, montmorillonitic, mesic	Aridic Argiustolls	Mollisols

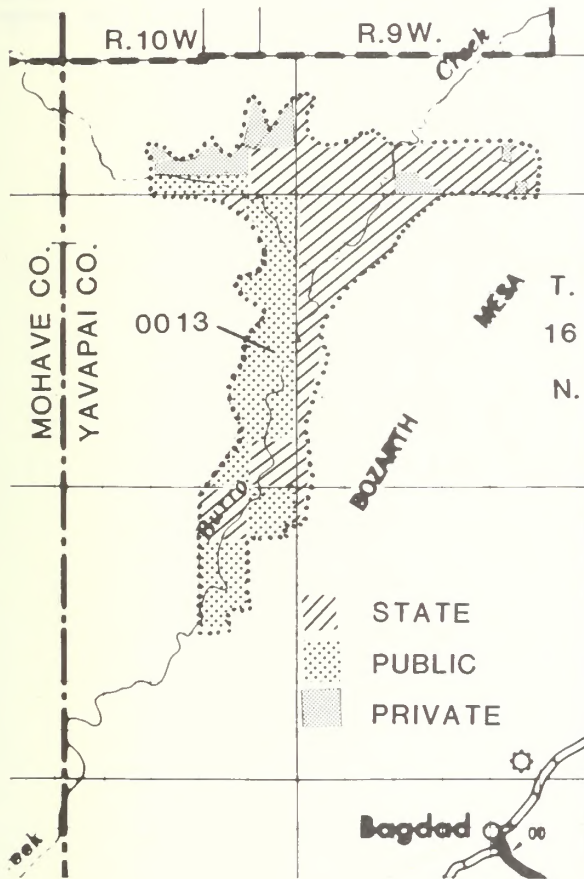
<sup>1</sup> This soil series name is a field name. The name has not been reserved and the series concept has not been completely reviewed.



SCOPING: An early and open process for determining the scope of issues to be addressed in an EIS and for identifying the significant issues related to a proposed action. Scoping may involve public meetings, field interviews with representatives of agencies and interest groups, discussions with resource specialists and managers, and written comments in response to news releases, direct mailings, and articles about the proposed action and scoping meetings.

Plate 1:

The boundaries of the Burro Creek allotment (number 0013) should be revised as shown in the following map.



# REFERENCES

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TABLE I

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